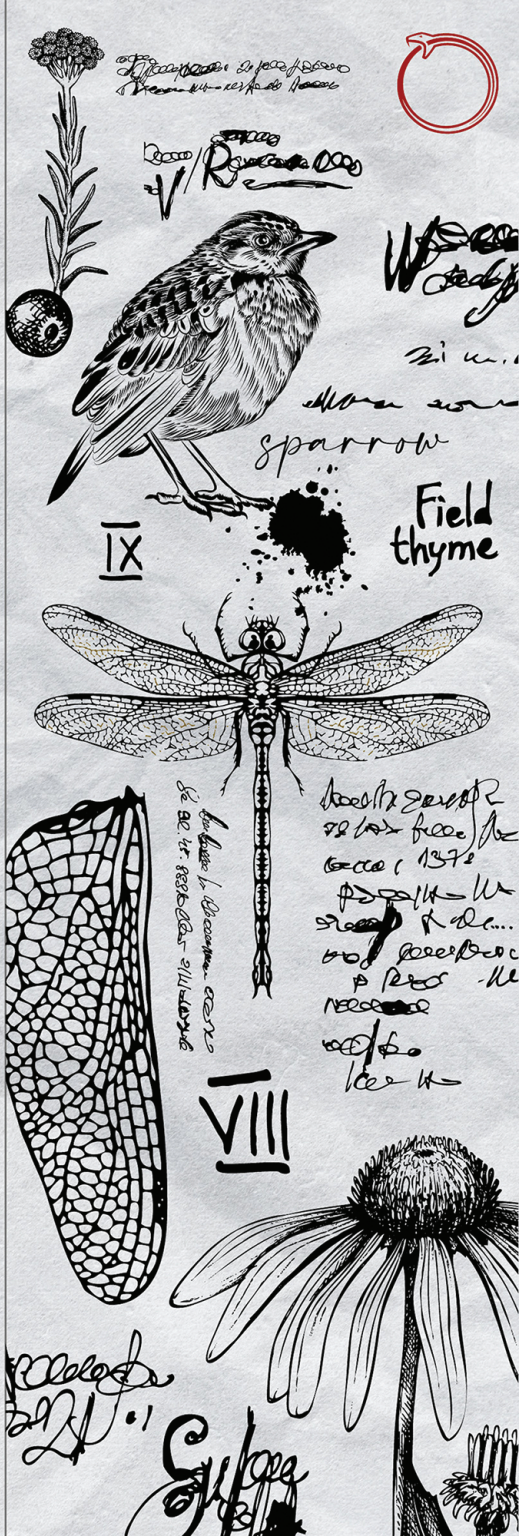
Vanessa Manceron

Wild and Wonderful

An Ethnography of English Naturalists

Foreword by
Stephen Hugh-Jones

Translated by
Michael Taylor



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By Vanessa Manceron,
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To my mother, Catherine

Lalba par umet mar atra sol
Poypas abigil miraclar tenebras

Dawn on the damp sea, sunrise
The watchman passes, darkness turns to light

Fleury, "Alba"

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Foreword

> The world was so recent that many things lacked names, and in order to indicate them it was necessary to point.
> —Gabriel Garcia Marquez, *One Hundred Years of Solitude*

"He has had a good time out of doors." So began my first-ever school report, the snide, double-handed observation referring at once to my passion for natural history and delight in the opportunities offered by the Dorsetshire countryside, and to my preference for keeping caterpillars and watching birds over any serious commitment to the classes in mathematics, history, Latin, and French offered by the school. But this was the school that, in lieu of writing tedious lines as a punishment for my bad behavior, also allowed me to learn the Latin names for most of the common species of British birds.

Later on, when I began visiting France as a teenager, I was overwhelmed by the country's rich diversity of fauna and flora. But I was also surprised to find that my French friends didn't seem to share my enthusiasm for collecting snakes, frogs, and newts. Worse still, there were hardly any books available for identifying the wealth of plants, animals, insects, and birds in front of my eyes, and several of the few to be found were merely translations of works in English.

Later still, following a childhood dream inspired by a copy of Alfred Russel Wallace's *Travels on the Amazon and Rio Negro*, I set out to conduct anthropological research amongst the indigenous peoples of the Colombian Amazon region. There my passion for natural history came

into its own. Armed with the relevant field guides, my wife Christine and I were able to identify and name many of the exotic plants and animals that our Amerindian hosts took for granted, eating them as food and using them as the basis of what Lévi-Strauss calls the logic of the concrete, the encoding of abstract ideas in terms of the appearance and behavior of natural species. At the time, a Colombian archaeologist friend remarked of us, "You English people can't really see things till you've given them names."

Quite fortuitously, these fragments of my own personal biography coincide with many of the principal themes of Vanessa Manceron's engaging, scholarly, and highly original book, *Wild and Wonderful*. Based on ethnographic field research in the village of Wedmore and the surrounding Somerset Levels, Manceron sets out to examine the peculiarly British devotion to the countryside and fascination for natural history; the key role of childhood experience and parental influence in nurturing a vocation for nature; the amateur naturalists' reliance on illustrated field guides for the meticulous and near-obsessive identification, naming, and recording of their chosen segment of the natural world; and the continuity and overlap between the empirical, fieldwork-based tradition associated with British social anthropology and that of great eighteenth-century naturalist explorers such as Darwin, Wallace, Bates, and Spruce, traditions often considered outdated, overly empirical, and inadequately theoretical in France.

Historians Keith Thomas and David Elliston Allen have already given us sociocultural histories of the British attitudes to nature and the rise of the tradition of amateur natural history, but it took a French anthropologist observer, viewing these naturalists at once from afar and yet close up in the field, to capture the full extent and significance of this Franco-British contrast. Part of the originality of Manceron's book lies in her anthropological approach and in the happy coincidence of the field observation and recording intrinsic to the practices of amateur naturalists and the fieldwork or field research that is the foundation of the ethnographic method.

Documenting her firsthand observations of botanists and ornithologists going about their own observation and recording, Manceron takes us beyond sociological and historical analysis to learn firsthand not only how they work but also what motivates them to devote so much of their lives to studying their chosen forms of life. We meet the likes of Liz, the leader of the Somerset Rare Plants Group, and Robin, an unparalleled authority on buzzards and their behavior, who strives to see and

understand the world from the buzzard's point of view. It is here that the fruitful circularity of a fieldwork study of naturalists at work in the field comes into its own. The result is at once an unusual and illuminating ethnographic window on something peculiarly British and an important contribution to science studies.

Vanessa Manceron's French background provides a privileged viewpoint onto an often taken-for-granted, seemingly "natural" feature of the United Kingdom: the Royal Society for the Protection of Birds, the National Trust, the Wildlife Trusts, the British Trust for Ornithology, indeed a world of trusts and similar charitable bodies with a legal status unique to Britain and playing a crucial role in conservation.

Her work is also an original contribution to the study of relations between human beings and the worlds of animals and plants. Inspired by Lévi-Strauss's *La Pensée sauvage* and his exploration of the logic of the concrete underpinning Amerindian mythology, this is a field of anthropology that French and francophone anthropologists such as Philippe Descola and Eduardo Viveiros de Castro have made their own. With this same tradition in mind, Vanessa Manceron observes that the knowledge of the physical world of amateur naturalists "cannot be regarded otherwise than as a modern science of the concrete," a form of knowing that successfully combines the rigors of fully scientific methods with the "aesthetic values, sensorial qualities, and an altogether human significance." It is this heady mix of subjectivity and objectivity, of upbringing, motivation, and sheer aesthetic pleasure and of accurate, impartial scientific observation, recording, and recordkeeping that she portrays so well.

The book also raises an important theoretical point regarding human-animal relations and modernist attitudes to "nature." As I have suggested elsewhere (2019), work on this topic sometimes slips into an excessive binarism that opposes all too easily the cold Cartesian "naturalism" of Western science to the Amerindians' enchanted animism. Manceron's account of real-life scientists at work in the field suggests a more nuanced picture, where there is no incompatibility between the methods and classificatory systems of modern sciences and the aesthetic values and human meanings of a lived and respectful engagement with nature.

The amateur, empirical bias and nontheoretical stance of the naturalist is one reason why, when compared to Britain, French natural history is relatively undeveloped, with serious study of plants and animal left more in the hands of professional scientists. But there are no grounds for any insular self-congratulation. If the crisis in biodiversity affects all parts of the planet, Britain's small landmass and high population density

makes the problem especially acute, with post-Brexit departures from EU legislation leaving the country's fauna and flora dangerously unprotected. The 2023 *State of Nature Report* judged the United Kingdom to be "one of the world's most nature-depleted countries, (with) nearly one in six of the more than ten thousand species assessed (16%) at risk of being lost."[1] Paying tribute to those who watch over Britain's rich but threatened plants and animals, the report states: "*It is through the collective efforts of thousands of skilled people, most of whom are volunteers, that we can report on the state of nature. Without their enthusiasm and commitment, we could not understand the pressures on nature, or whether our efforts to address these pressures through conservation action have been effective*." In Vanessa Manceron's book we meet this army of skilled volunteers, come to know how they operate, and understand what drives them on.

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1. https://stateofnature.org.uk/.

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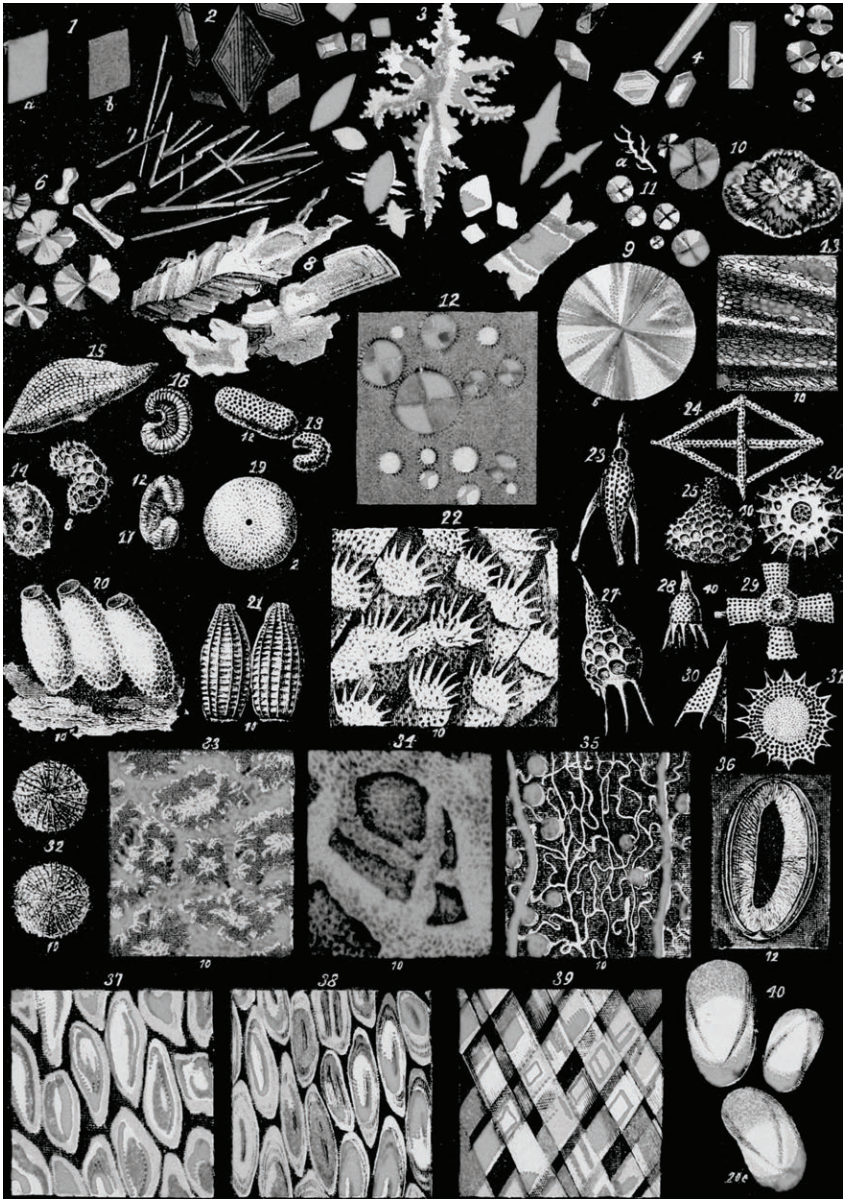

Figure 1. *Opaque and Polarizing Objects*. Courtesy of the Biodiversity Heritage Library.

INTRODUCTION

Knowing and Recognizing

The clamor of warnings, which have come with increasing intensity and frequency over the last two decades, keeps one awake: alarming us with the dire state of a great many milieus being razed, asphalted, polluted, disfigured, plasticized, depopulated, depleted, and decomposed. Naturalists do not sleep, are not conveniently deaf or blind to the erosion of living things. In fact, it is thanks to them that we are aware of the extinction of species; the notion of the Sixth Extinction would not have appeared without them. Yet naturalists are not heard, or only very seldom, in the arena of political ecology. It is as if they were merely able to recite the names of plants and animals, unlike activists venting indignation and occupying zones in need of protection, philosophers who build narratives of reconciliation and regard, anthropologists who document alternative modes of perceiving and sharing nature, historians and sociologists of science who investigate past scholars in order to unearth ways of objectifying the reality that precede or contradict the so-called Cartesian split between humanity and things.

Discreet and silent, naturalists tirelessly follow their own paths in the countryside as well as in the city to observe living things and record their presence in lists destined to enrich inventories and maps. They are able to recognize and name a staggering number of species that no one else in Europe, lacking the words or names to endow them with their proper existence, is able to distinguish in their intricacy and in the proliferation of life-forms that unfold in close proximity to one another. Whether they live in cities or in the countryside, naturalists have learned to observe and

to move in certain milieus with an unparalleled acuity and ease that is the envy of others who use the same environments, such as hunters able to track game or shepherds who scrutinize the alpine slopes as their flocks graze, gardeners and growers who are virtuosos of fertility. In these times of crisis and aspirations to return to the land, they too are connected to wildlife, yet not in the same way and sometimes in cities. Without any other need than that of knowing living beings for what they are, naturalists investigate and familiarize themselves with habitats, equipped solely with their senses and sensibility, a notebook in hand, also field guides, and binoculars or a magnifying glass around their neck. Although it doesn't determine or depend on a lifestyle associated with exploiting a given milieu, their commitment, whether scholarly or empirical, is nevertheless demanding and intense. It is also a lifelong affair for them. From childhood, their existence is deeply and solidly moored to the living things they observe. Their mode of knowing is at once a highly concrete relationship to the world and an existential involvement that is never satisfied with vague and hasty notions of a mere intellectual pastime.

Much like biologists and ecologists in their research labs, naturalists work along country roads, hedges, ditches, in undergrowth, on the banks of ponds. Their investigations are not a profession, but they are engaged in a field of knowledge in which they play a special role: the valuable role that amateur scientists create alongside and outside research institutions, unique and singular. Long accustomed to practicing a type of knowledge derived from natural history and reflecting the great intellectual project of naming and classifying all of life's forms in a unified system that became stabilized in the eighteenth century, they navigate within the Linnean taxonomy, not in order to reduce the world to a preestablished order but to extend it further and explore its uncertainties, its shimmer and infinitesimal variations, its regularities and transformations in space and time.

In response to the words of Vinciane Despret regarding birdsong and the immense curiosity it evokes among ornithologists, we could say that naturalists count themselves among those who know they will never know everything, modest masters in their own field, inquisitive and moved by what plants and animals tell us and the riddles they pose when singing, flying, perching, or flexing in the wind.[1] We need to follow naturalists, encountering neither joyless erudition nor cold, remote displays of knowledge, if we are to understand what their intense attention to the

1. "A l'écoute des oiseaux." Interview broadcast on Radio France, "France Culture" on October 19, 2019. See Despret 2019.

living—for that is what is involved here—produces in the way of wonder and a unique rapport to nature.

In France naturalist activities have attracted scant attention except in the last couple of decades, in connection with observations about the erosion of biodiversity that naturalists have made, mostly in partnership with the Museum National d'Histoire Naturelle in Paris in the context of participative research programs, which have mainly developed in the 2000s, and increasingly in the last decade. The year 2013 saw, as well, militant naturalists inventorying the wetlands in the "Zone to Defend" of Notre-Dame-des-Landes in western France. As Sandra Delacourt (2019) reports, one Sunday per month for three years running they crisscrossed this territory as volunteers, followed miles of hedges to spot common lizards and Aesculapian snakes, discovered brown long-eared and whiskered bats in the recesses of trees, detected by ear and at night the presence of spiny toads in marshes. Reporting on social media and in the press, Boris Presseq, a French botanist at the Natural History Museum in Toulouse, has chalked on sidewalks in Toulouse's central Busca district the names of plants growing under gutters and in pavement cracks—purslane, redshank, whitlow-wort, and the like—as a way of making urban dwellers more aware of the flora around them. For to name is a way of bringing into existence, he says. That almost seven hundred species have found their way into mineral crannies commands respect at the very least, he adds, provided one pays attention.

A sign of the times, the naturalist awareness of nature in France is just beginning to emerge among scholars in the humanities. Witness the recent book by the historian Romain Bertrand, *Le Détail du monde*, which reverberates like a daydream or a nostalgic return to the legacy of Johann Wolfgang von Goethe, Alexander von Humboldt, or Alfred Russel Wallace. In his view, natural history is a form of lost knowledge that "spells out the appearance (of the world) the better to experience its presences" (Bertrand 2019: 238) and calls for throwing off the constraints of all-encompassing categories, justifications for uniformity and numbered scales, and the divorce between art and science, and to once again begin paying attention to the singular and to the plurality of life-forms. The philosopher Baptiste Morizot takes a parallel view. In his book, *Manières d'être vivant* (2020: 21), he defines the ecological crisis as a crisis of receptivity, that is, as an "impoverishment of what we feel, perceive, comprehend," and of the way we interrelate with living things; in short, a reduction of the range of our feelings, perceptions, concepts, and practices linking us to the living, in other words, "the modes of attention

and the quality of our openness" to life. These two authors adopt the same point of departure: the realization that our contemporaries are inattentive to the world of the living and regard it with a distant, distracted gaze, not because it is silent but because they no longer speak its language. This is because either this language has been forgotten along with the knowledge-based and firsthand approaches of natural history (Bertrand) or because of the modern rapport to nature (Morizot). For, as the latter adds, "the moderns are crazy enough" to view nature as a backdrop, a store of resources, a locus for emotional and symbolic projection, "a silence that reinvigorates, a cosmic solitude, a peaceful landscape. A setting empty of real presences, a mute scene" (Morizot 2020: 24).

As these authors see it, the art of reading nature has thus been lost owing to the impact of massive urbanization, ignorance of ecological and ethological knowledge, and also because we live within a cosmology where there is supposedly nothing to see, in combination with a shrunken imagination, dreams poor in living beings, unlike what Charles Stépanoff (2019) has observed among the Tuvans in the Far North and Eduardo Kohn (2013) has seen among the Amazonian Runa people (Morizot 2020: 28). It is up to us moderns to change our outlook and repopulate the world with whispering, prolific forms of life that demand to be known and recognized.

All naturalists would agree with this last statement. At the very heart of our industrial societies some of them are beyond reproach, and Morizot and Bertrand draw inspiration from them, although they prefer to refer to more captivating historical or cultural spheres of imagination. Yet when a more demanding attention is brought to what these naturalists are saying and doing, and to where they live, to their distinctive ways of engaging with and getting to know, we have a chance of undoing our limited expectations. Indeed, there is no question that observing nature with their attentiveness allows remarkable, marvelous forms of life to materialize, become visible, move about, interrelate and exist in their own particular way. Their territory is neither poor nor devoid of real presences. It teems with beings that call out to be known and recognized.

To understand this fully we need to go to England. Coming from France, one cannot help but be struck by the popularity that the naturalist tradition enjoys on the other side of the Channel. No surprise that in the "Environment" section of the national daily paper *The Guardian* one finds numerous articles by the journalist and ornithologist Stephen Moss devoted to the joy and sadness brought by the call of the common cuckoo (*Cuculus canorus*), the return to Sussex of white storks (*Ciconia*

ciconia) (which had not produced chicks in the United Kingdom since the fifteenth century), or to the recent migration of some dragonfly species drawn to warming temperatures.[2] Nor is it a cause for wonder that the book *The Natural History and Antiquities of Selborne,* by the eighteenth-century vicar and naturalist Gilbert White (1789), should have known a publishing success rarely equaled in England, namely no less than three hundred successive editions! In English bookstores, shelves devoted to field guides and autobiographical accounts by naturalists are the envy of French naturalists, who are often obliged to send across the Channel for the literature they thirst for.

In England, natural history is not regarded as a residual survival, one that has continued in the face of adversity, existing in the dusty margins of the contemporary world, struggling to survive as a field of legitimate and active learning (except inasmuch as it contributes to the inventory of species, recognized as a major challenge since 1992 when the concept of biodiversity entered the political arena with the Rio Summit). Similar to what took place in the other European countries in the second half of the nineteenth century, in England, too, natural history has been shouldered aside by the newly emerging sciences like biology and ecology. Nevertheless, natural history was not viewed as a leftover or as an anachronistic legacy above all because it had been considered a field for amateurs and an empirical method rather than a science, endowed with an arsenal of sophisticated measuring and model-making tools, yet more of a contemplative pastime than a contribution to knowledge. What we have, in short, is the stunning paradox of a sort of centrality of the marginal, timeworn, sought-after collaboration of scientists, naturalists, and conservationists, giving rise to a variety of luminous, fruitful gray zones. The members of learned societies and conservation trusts in England number in the tens of thousands. The Royal Society for the Protection of Birds (RSPB) alone has over a million members, whereas its French equivalent, the Ligue pour la Protection des Oiseaux, has only 57,000.

In England, too, one of the first countries to have experienced a triumphant wave of industrialization, "nature lovers" concerned about the future are numerous. The former doubtless goes hand in hand with the latter. One encounters quite a few of the themes of this fertile combination

2. Stephen Moss in *The Guardian*: "Birdwatch: Call of a Cuckoo Brings Joy and Sadness," June 11, 2020; "Birdwatch: White Storks Return to the UK after 600-Year Absence," August 11, 2020; "Here Be Dragonflies, Thriving in Britain as Never Before," August 16, 2020.

in Keith Thomas's book *Man and the Natural World: Changing Attitudes in England 1500–1800,* first published in 1983, which has no significant equivalent in France. Starting with the 1970s and '80s and observing that not a day goes by in England without an impassioned debate in newspapers about trees being cut down in the royal park of Hampton Court, the decline of this or that species, or the deadly effect of pesticides on the flora and fauna of the English countryside, the author undertakes to investigate the "revolution in feeling," as he calls it, and the "love of nature," whose emergence he situates at the beginning of the modern era. "It was these centuries which generated both an intense interest in the natural world and those doubts and anxieties about man's relationship to it which we have inherited in magnified form," he writes (1984: 15).

The book starts by recalling the essential role of the English aristocracy—a crucial point—as well as that of the middle and upper classes, haunted through and through by countryside longings and cultivating a deeply rooted repulsion and aversion for polluted, overcrowded, unhealthy cities. At the very heart of the first industrialized nation, large numbers of citizens have occupied and rambled around the countryside up until the present, driven by a constant, intense, precocious, and collective interest in the natural world. They were almost obsessively fond of surrounding themselves with pets, paintings of flowers, natural history books, gardens, landscaped parks complete with outdoor aviaries … And as bourgeois reformers took British agriculture in hand in the eighteenth century, resulting in the Enclosures Movement, in privatization and the division into regulated plots to the detriment of common land, the "picturesque" emerged at the same time as a kind of resistance to the formalism of undeviatingly straight hedges and a preference for landscaped gardens with curved lines subtly blending with the surrounding countryside without a clear separation between cultivated and undomesticated areas. As Stépanoff emphasizes, "during the modern era cultivation and contemplative admiration have fed off each other," thereby creating a split "between land and animals suited to productive farming (agricultural land, livestock, industrial forests) and that which, surpassing the human presence, is worthy of moral connections, affects, and protection (persons, domestic animals, protected species and landscapes)."[3]

3. Stépanoff 2021: 10–11. The categories of the edible and the inedible, of the close-by and the remote, operate here, as they do in all human societies, but the modern notion of a natural continuum collides more and more clearly with its inherent hierarchizations and differentiations.

Landscaped gardens may belong to that "mixture of compromise and concealment [that] has so far prevented this conflict from having to be fully resolved," which Thomas speaks of in the concluding paragraph of his book (1984: 303). Yet they are also the result of blurring the frontier between the natural and the artificial—which merits a deeper look, for this blurring owes its existence to more than the resolution of a moral dilemma.

In his latest volume, *Le Temps du paysage: Aux origines de la révolution esthétique* (2020: chapter 3), Jacques Rancière returns to the distinctly English significance of the curved line or serpentine, which in his opinion marks a decisive change in the human relationship to nature. The latter ceases to be the model for the artist to imitate; without striving, nature is itself the artist by creating what English theoreticians of the art of laying out gardens refer to as "scenes," in other words, a whole set of appearances fashioned by bringing together earth, trees, rocks, light, shadows, bright vegetation, animals, water, and so on. The result is a nature that is irregular, with rough patches, broken or sinuous lines, rockfalls, mutilated tree trunks, cavities, and fractures, that is to say, accidents that are the mark of circumstances and aren't chosen or planned.

Beauty lies then in the absence of selection, in the coexistence of "all kinds of objects, all varieties of forms and colors" that "link natural elements on the basis of the happenstance of time and the seasons, as well as of the activities that have affected them" (Rancière 2020: 46). That which needs to be imitated in nature-as-artist, the author adds, is the way it works, its ability to absorb the results of human activity, the inspiration, for example, in the reflections of a miniature lake in depressions or piles of ground left over from abandoned gravel pits. Liberty, irregularity, and intertwining human, animal, vegetal, mineral traces … Everything seems to be subtly combined in a natural setting whose beauty and interest never lie in the absence of humans, either because it has been the inspiration to be reproduced in gardens or because it bears the marks of landscaping projects and testifies to a fusion of interwoven elements that together shape the site's aesthetic appeal.

Stépanoff and Rancière explain why, in England, beyond the aesthetic dimension, the frontier between nature and culture becomes an interplay of experiments, as if it were a matter of exploring breaches rather than breaking down an entire wall. In the words of Laurent Châtel, "Great Britain represented itself as a single garden." All nature was a garden at a time when the "beauties" of the British territory were being discovered in connection with a national agenda of geographic, geological, and

aesthetic exploration of the new kingdom, "combining in a same entity gardens, agrarian land, and the wonders of nature."[4] The preindustrial imagination, closely associated with the English countryside so well described by Raymond Williams in *The Country and the City* (1973), also fostered forms of historical and sociological continuums between city and country and modes of appropriation and socialization of nature that blur and complicate what its inhabitants mean by "nature."

In a country four times as densely populated as France,[5] the effects of urban flight are particularly noticeable, especially in the south and southwest. Termed "counter-urbanization" by some geographers, this trend testifies to the irrepressible attraction of country life for middle- and upper-class city dwellers, with a significant increase since the 1980s (Richard 2009). Somerset County where I stayed is one of the rural areas where the majority of the inhabitants shuttle between the city and the countryside, whether or not they have recently settled in this region.

Yet I never encountered a project of a "return to the land" comparable to that undertaken by neo-rurals in France, still less to a "return to nature"—a primitive nature linked to fantasies of the untamed. The nature that the inhabitants of Somerset are deeply concerned with is hospitable and familiar. It is a specific, localized living environment consisting of a meeting of numerous human and natural features that are protected and conceived of together as being intertwined. For most of the residents, nature is neither land nor wilderness. It is an environment and a place where soil, trees, artifacts, wildlife, and human beings coexist, hence the essential notion of a cohabitation that has to be created and protected in back gardens, in attics where bats roost, on rooftops where birds nest, in hedges, turf, along roadsides, in fields, lanes, nature reserves, and so on. This idea of a cohabitation within a same living-space is a striking ideal that I came across many times. It resonates with the idea that an ensemble of living beings (including humans) coexists on the scale of an entire territory, that they live together under the same roof, so to speak, that they go about their own lives quite distinct from one another but always connected and interdependent.

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4. The 1707 Acts of Union brought two separate countries together in a single nation. "Nature, countryside, lands, and landscape were combined in a garden which became the embodiment, the essence of the nation" (Châtel 2006).

5. The population of England was 51 million in 2006, with a mean density of 390 inhabitants per square kilometer, as against 112 for mainland France.

To speak of "nature" in this context may seem inadequate, for in the end what we are dealing with is a set of milieus and relations within a countryside where nature and society, the untamed and the crafted (as Augustin Berque [1986] says in the title of one of his books), seem to be inseparable. Although the English language does have the word "wildlife," we still need to think in terms of the curved line. To be sure, the concept of "wilderness" exists in England, and has given rise, as in nineteenth-century France, to a legion of romantic notions about the sublime and sweeping solitary spaces. This was the moment when the educated classes that were not involved in the agricultural process went to admire uncultivated expanses in Scotland and Wales (mountains, marshes, moors, etc.), seeking to preserve them from all attempts at domestication and development (K. Thomas 1984). However, this radical version of wilderness, the supreme example of which should rather be sought in the United States, did not become a model in England to the same extent as in France. The reasons for this may lie in demography, the early agricultural industrialization of the English countryside, and the unprecedented success of "a green heritage culture, at once agricultural and aesthetic" (Châtel 2006). But we need also to examine the vigor and social influence of the naturalist tradition in England if we hope to understand the singularity of this national trend, which signals a different notion of wilderness and a taste for arrangements rather than for separating dualisms.

When people in Somerset talk of "wildlife," they do not mean "wilderness." The fact that as early as the end of the seventeenth century middle-class and upper-class gentlemen and women began taking an interest in plants in themselves by botanizing in the countryside and not tolerating any species to be considered a "weed" led to regarding ferns, gorse, thistles, poppies, yarrow, St. John's wort, brambles, and dog roses as beautiful and worth admiring. Meticulously inventoried in many regional plant guides, and also admired in parks and brought back to embellish home gardens, the wild appeared in hedges, on roadsides, at the edge of fields, around homes, in cracks in the pavement, and in nature reserves arranged so as to provide a favorable habitat for various species to allow them to prosper and to colonize the edges of cultivated or built-up areas.

"Wildlife" thus means the manner in which plants and animals behave as independent, different beings, beings that owe nothing to humans but depend very concretely on human management (in the case of conservationists) and/or human attention (for naturalists), as they are

destined to share habitats. Here we will not find the temptation mentioned by William Cronon, to escape history or evade the iniquities of artifice by fleeing to the wilderness. English naturalists would doubtless agree with Cronon's assertion that, if wilderness can cease to be "over there and not here," if it can be as human as it is natural, perhaps we can begin to shoulder the endless task of striving to live justly in the world (2016: 168).

What matters here is the manner in which humans and other creatures share a territory entirely altered by the historical interweaving of all of the above components. For naturalists, wildlife is within easy reach, can always be known better, and has a history that needs to be traced. It is in this respect that they learn to take care of it and to examine its existence by educating the senses, which allows it to surge forth not as an all-encompassing conceptual imaginary but through an empirical method. These other living beings go about their lives in worlds that are parallel and contiguous to that of humans, and the latter seek to connect with them through a knowledge derived from experience. It is because there are differentiated parts and segments of the real (categories) that there are orders; it is because there is interweaving (serpentine lines) that there are relations.

To lovers of wilderness as well as those who think we need a change of "cosmology" if the world is to be repopulated and shared with other beings, this view of nature will seem somewhat disconcerting. French naturalists will reply that we just have to change our outlook, whereas their English counterparts will surely be taken aback on being told that modern humans have on the whole stopped paying attention to living creatures and taking care of them, even if modern humans do not do so in the manner of hunters-gatherers. Moreover no ontology has ever guaranteed an absence of environmental deterioration or has had the capacity to oppose such a deterioration. As Virginie Maris writes, "it isn't merely a 'view of the world' that lays waste a forest, but a series of participants involved in that destruction who have interests in doing so and the means of their ambitions" (2018: 86). Regarding Westerners as a whole as "bad savages" guilty of having brought the planet to its knees with their ontology is a step that some of our contemporaries take blithely. As Philippe Descola (2005: 212) stresses, there is a kind of ingenuousness to viewing the great division between nature and culture in moral terms, for this would also amount to ignoring the dynamics and the power relations underlying the environmental crisis and its immense acceleration during the second half of the twentieth century.

Interestingly, naturalists go by the name that Descola chose to designate the modern rapport with nature. In his book *Par-delà nature et culture* (2005) he distinguishes the naturalist ontology from animist, analogist, and totemist ontologies in that it assumes a continuity of the physical and a discontinuity of the interiorities underlying the hierarchy of living things; it is also the basis of, as well as a separation between, humans who possess culture, consciousness, reflexivity, *logos*, and other nonhuman living beings. Naturalists do not speak to plants or animals and do not enter into exchanges with them, regarding them as beings endowed with the same interiority. No doubt naturalists will therefore disappoint those tempted by animism. Yet they too dislike reifying dualities and asymmetries. They seek bridges, passageways, alignments, manners of connecting, of relating details that, while not contradicting Descola's principles, allow something else to be said, something more in line with their empirical experience of the animal and vegetal world. It is these disparities and the types of ambivalence they prompt in focusing a lavish attention on living things, even at the heart of modernity yet without seeking to upset the order of things, that renders them so disconcerting and interesting.

Thanks to ethnographies of the modern world we can show that there are also ways of connecting with and conceiving of nature without regarding it as mute or at our disposal, without necessarily invoking the absoluteness of private property or imagining that our relationship with nature isn't reciprocal to the point that we deny it validity and contract no moral debt to it. There are social spaces where relationships that tie beings and things together are experimented with by mobilizing modes of knowing and doing that are not based on sharing faculties and status as beings, or, more precisely, this is not their only structuring dimension.

The attempt to seek sameness in the other, that is, the valuing of resemblances between humans and nonhuman beings, is not, of course, the path followed by naturalists. They prefer to multiply differences while refraining from making unequally distributed mental capacities the matrix of these differences. They will feel closer to the alternative approach developed by the environmental philosopher Hicham-Stéphane Afeissa in his book *Manifeste pour une écologie de la différence*. Indeed, they cultivate a cognitive empathy that "far from allowing itself to be absorbed by the other … asserts the otherness of the other, attempts to seize its salient traits in order to go as far as possible in the direction of a life that is not ours" (Afeissa 2020: 71). Naturalists marvel at life's potential without seeking to minimize it or reduce it to a morality of pity toward

more vulnerable beings; they create forms of companionship at a distance, neither dispensing with identification nor transforming the other.

By looking at their observations, practices, and types of knowledge, we can get an idea of the modest yet consistent trail they blaze in these times of aspiring to consideration and connections, and the disconcerting path they take. Naturalist activities take place in their own space-time, and it is precisely because they are partly free of the social constraints and everyday asymmetries related to the functioning of institutions, of the labor market, and of such socioeconomic inequalities, that in England they are held to be enchanting. They offer individuals a freedom that involves self-construction, private and moral responsibility, peer groups, and citizen participation. They define a reverse space-time that is the starting point of a relationship with nature removed from any form of utilitarianism, from all manners of connecting with nonhuman living beings based on domination, and all ways of knowing that clash with the expected framework of scientific objectivity.

Their practices also question what is generally meant by political action. For these naturalists are involved in the struggle against the erosion of the living, but in their own good time. They have chosen to keep their movement slow by acting with patience, humility, and an attention to details, eschewing heroics and any frontal mobilization against the balance of power. They do not construct all-embracing narratives, no denunciations, lamentations, or prophesies. If we follow Bruno Latour in his endeavor to understand what nature, science, and politics might have to do with one another, as outlined in his book *Politiques de la nature* (1999: 28), it appears that naturalists shun the dead-end arguments he identifies, even as they lose them in the underbrush. They do not topple into objectivity as a calculable, accountable thing, even though they too use counting and contribute after their fashion to the world of Big Data. They do not transform the living into mute things; they do not endow them with the capacity for dialogue and do not seek to be their representatives or to speak for them. They concede nothing to the values that bring nature into poetry or romanticism, even though they too are moved by beauty and aesthetic feelings. They do not confuse facts with values, depriving themselves of an autonomous knowledge and an independent morality, even if they mobilize them in common.

Naturalists follow a very singular path, with their knowledge "without qualities," their certainties and uncertainties, their lack of claim to embody the politics of the future or protect nature by sheltering it from humans. They recoil from scientific models and overarching explanations

and shrink from speaking of nature in the singular, for to them everything is a matter of environments, situations, events, and a plurality of life-forms. The path they follow is indeed unique, owing to an epistemology that cannot be separated from experience and to their profound life-long involvement with subjectivity and the personal; owing to their incremental findings as citizen-contributors which are ordered differently depending on the singularity of the forms of life around which they gather; and owing to their notion that to be human is not to separate oneself from nature or to regard it as a segment of reality upon which one exerts an influence but rather as one with which one should socialize respectfully and with consideration.

Naturalists operate in the little-known, little-studied gray zone of modernity, curiously echoing what postmodern political ecology is theorizing, but apparently not turning it into a political agenda. Yet does inscribing a plant's name in chalk on a sidewalk, an ephemeral trace that urban passersby will tread on and rain will erase, amount to a desperate list drawn up before the house burns down or is it a way of showing that one is content to notice one last vegetal species growing under a gutter in an increasingly mineral world? Staying awake, not sleeping, standing watch and watching over, remaining attentive, caring for and accompanying a convalescent or someone who has just died in the same way that one lights a light through the night next to a bed … British naturalists keep watch, at once attentive and vigilant to living things that suddenly appear, survive, or die. They keep them in sight, render their presence and existence visible, their importance manifest. By identifying them and showing respect for them, they recognize them in the two senses of the term. They do not speak on their behalf, as environmentalists do, nor do they take them under their wing like conservationists. They name them as though they were naming for the first time; they locate them in space, follow them in time, without coddling or mothering them. They want to make sure they are still there, or, inversely, they bear witness to the fact that they are gone. They watch over them. "Watch." The first meaning of the verb signifies "to look attentively, to keep watch." The time of the vigilant observation of naturalists is keyed to a certain art of seeing.

Moral concerns are involved as well: they articulate very narrowly the individual responsibility and the participation of ordinary citizens in nature understood as a common good that one feels at once responsible for and a part of, for it is integral to what one is. Watchers rather than guardians of nature, whistleblowers, or sentinels, they aspire to see wildlife return to cities, the countryside, suburbs of its own accord, without

being culled or contained. There is nothing like distancing ourselves from great apocalyptic or enchanting fictions for making us question what we hold dear and what has a hold over us. Naturalists politicize attention and bring their own answer to the central issue of political ecology: what kind of trace do we want to leave behind?

In the process, a many-branching path lies ahead. To echo Latour's reflections about the proliferation of hybrid realities that scientific thought has sought to give a separate status to by concealing the conditions for producing knowledge, it is undeniable that when we place ourselves on the level of relationships and practices instead of that of ontologies and cognitive categories, it does indeed appear that modern duality is not airtight.

Moreover, it seems to me that the naturalist ontology contains and engenders unexpected relational possibilities that are particularly important for describing and thinking in such a way as to produce surprise. The modern split may give rise to protective impulses like those found among conservationists, to forms of projection, urges to master or transform. Or it may lead one equally to consider the distribution of mental faculties among living things and their respective status, as do the advocates of animal rights. But it may also lead to types of disinterested knowledge and wonder, attempts at empirical immersion in the world of other creatures and an attempt to adopt their viewpoints, owing to the very fact that their proper, autonomous, and exterior existence is recognized. Descola's descriptions of northern European painting in his latest book, *Les Formes du visible,* attest to this in some respects. While pointing to the salient features of naturalism in images—"showing the physical continuity of beings and things in a homogeneous space structured by the apperception of a human subject" (2021: 435), Descola unpacks this shimmering art which bends itself to "the character of things." The visual experience is transformed, Descola writes, into a "tenderness for reality … an almost servile deference to the grain of the quotidian … a faithfulness to the world as it is … a declaration of humility in which all that emerges is the pride of technicians," coalescing with "the immanence of things perceived." What is involved, he goes on to say, is actually a "repatriation of mystery in ordinary life, whereby the most common things take on a troubling depth" (2021: 497–506).

To observe the living as a naturalist is to experience a kind of vertigo linked to a double combination: on the one hand, their interiority is connected to a portion of the exterior world without implying a fusion of

identity; on the other hand, the particularity of the observation is joined to more general principles governing plant and animal communities. No doubt, it is in this disconcerting synthesis that the power of the naturalist epistemology resides (see Delaporte 1994: 27).

But above all, this vertigo arises from the very act of observing living beings "for themselves." It is a matter of feeling wonder at the particularity of each life-form as well as intensifying its presence by allowing it to appear in its own time, permitting it modestly and patiently to deploy itself in front of one so as to let oneself be surprised and captivated by what is happening, while actively taking the time to look and see. It is because naturalists observe with no goal in mind, and because they do not reduce events to causes, that living beings can be seen as existing for themselves.[6] Only a dense, precise ethnography of the modes of naturalist attention to the living can bring this out.

No doubt, imagination and tenacity are needed to perceive causes for wonder in lists of species, maps, and field manuals. In the end, only those involved in this activity can appreciate its true flavor, unless one considers that such documents and the accumulations of findings are also a way of expanding attention to beings and to a territory. At the same time that a scientific knowledge of a milieu underlies the unfaltering, laborious technical undertakings of naturalists—precisely counting and locating living species—a fervent, full immersion of the senses in uncertain alien worlds is involved. In short, theirs is a modern science of the concrete.

My own attention was captured when I perceived myself participating, taking notes in a notebook as I was observing men and women writing in their own field books their observations regarding plants, butterflies, or birds. This game of mirrors opened cognitive and epistemological perspectives very different from those of ethnographers, though they also resemble them. For naturalists have a perception of life that keeps them from viewing phenomena and living beings as dried plants in an herbarium. Their immersive mode of attention leads them to look at plants and animals from their own perspective. By homing in, by focusing on individuals, on how they socialize, on variations in behavior within a same species, on their mysterious reasons for behaving in a given situation and their interactions, on the proportions of innovation and routine, on their relations of power and solidarity, they place themselves on another level of reality where plants and animals become the subject of their own action. They situate themselves inside the sphere of the

6. I wish to thank Antoine Hennion for his helpful comments.

beings whose physical appearances, movements, recurrences, and behaviors they scrutinize with an unparalleled meticulousness in an attempt to come as close as possible to whatever it means to be a plant, a butterfly, or a bird. Their mode of attention is at once benevolent and respectfully distant, considerate yet consistent, persistent and guided by a determination to be exhaustive, focused, and absorbed. How better to say that both anthropologists and naturalists are part of what they observe? And to realize this, it is important to observe them observing.

The choice of England plays an important part in laying out these different matters. It is not easy, and it is no doubt not desirable, to distinguish between the naturalist mode of attention and a truly national tendency. Yet there is no equivalent in France to the communal ethic extended to nonhumans one encounters in England. The latter rests on the idea that the countryside is a space of relationships that need to be established or re-established in order to have an almost organic connection to nature and to the land. We are dealing here with two types of imaginary: on the one hand, the idea of a harmonious universe where a plurality of admirable forms of life cohabit and interact closely in the same garden; on the other, the Darwinian legacy of a common, nonessentialist, nonfixist descent that makes humans just another living being among others (David and Lecointre 2021).

In the company of naturalists, we find ourselves enjoying the gentle beauty of a felicitous rapport with wonderful creatures against a background of constant worry about their threatened future. To provide an account of this, I could have chosen to undertake a multispecies ethnography or I could have mobilized an interdisciplinary approach. Discussing naturalist knowledge as a system of collective representations of a unified natural world would indeed lose sight of the active part played by those groups of beings that are, as the naturalists themselves would agree, quite the opposite of an inert, acted-upon environment. Nevertheless, to attempt to account for the way they objectify living beings by establishing a radical symmetry between their respective positions and situations as observers and observed would be to run the equally problematic risk of losing in the process all that the interspecies relation owes to words, thoughts, feelings, interpretations, imaginations, as well as to tradition. To give myself a chance of capturing a multilayered world interlaced with different meanings, I have therefore opted for an uneven symmetry. I have done this for the simple and good reason that naturalists take that same approach to fauna and flora. Drawing up an ethnography of the plant or animal viewpoints from the perspective of the persons observing

them avoids the shoals of the multispecies and interdisciplinary problem of symmetry (see Manceron 2016a). By focusing on their unique manners of knowing and recognizing, the agency they attribute to other beings finds its place and consistency in writing—a writing attentive to describing and rendering, slowly and delicately, the density and detail of things.

Figure 2. *Nyland Hill*, *Somerset*. Artwork by Liz McDonnell.

CHAPTER 1

Involvement

In 2010, I crossed the English Channel at Calais to reach the coastal wetlands of the Somerset Levels and Moors in southwest England, a vast, flat, almost 230-square mile expanse under an equally flat horizon, with skies like an inverted ocean. I remember the contrasting colors, the intense black of the peaty soil particularly visible around extraction sites, the silhouettes of cattle standing out sharply against the acid green of wet meadows, gray herons (*Ardea cinerea*), great egrets (*Ardea alba*), Bewick, or tundra, swans (*Cygnus colombianus bewickii*), cranes (*Grus grus*), as well as the geometry of fields bounded by ditches and canals draining into rivers along which, here and there, grew old willows. Buckled and deformed by shifting of the spongy ground, the road gives one the impression of driving on a floating ribbon. Small scattered villages often perch on rises, recalling the era when they were islands dotting wetlands washed by tides and winter floods, before dikes were raised and the land drained at the end of the eighteenth century.

The wetlands of the Somerset Levels and Moors are now something of an ecological model, one of the richest in terms of life-forms, a place of exuberant vitality and an intense production of organic matter. The very name evokes a host of related concepts: a sponge that stores water and releases it in periods of drought; a filter that purifies watercourses, turns nitrates into gas, sequesters carbon; but equally and above all a reserve for numerous ingenious living beings, offering possibilities of persistence and renewal; in short, a vital pocket at the heart of an

increasingly vulnerable planet. In this connection I discovered that no fewer than 134 square miles of the Somerset Levels and Moors were classified a Ramsar site, that much of the same region was labeled an Environmentally Sensitive Area, that 132 separate sites were designated Sites of Special Scientific Interest, among them twelve sites additionally classified Special Protection Areas.[1] Following the publication of a quantity of alarmist reports about the threat that draining and agricultural intensification have been posing since World War Two, the wetlands have been without doubt administered, and farmers have been extensively requested to modify their practices.

Somewhat disconcerted by the density of this institutional network which had no equivalent in France, I was further surprised when I took up quarters in the village of Wedmore, nestled on the plateau of the Mendip Hills that flank the wetlands. I was no longer sure that I had come to a rural village. It was the preferred residence of those who, passionate defenders of the natural world, thrill at the mention of wetland plants and animals and yet have chosen to live in a populous, well-off village in the picturesque setting of hills.

I knew from my reading that the Somerset Levels and Moors was one of England's foremost locations for environmental activism. I pictured the wetland and surroundings as a rewilded area interspersed with small rural villages where natural, or so-called peasant, farming is chosen as a means of redress for the precocious industrialization of English agriculture. But it seemed that I had to reconsider what I understood by "wilderness," perhaps even by "nature" and "rurality," for these notions were narrowly associated in my mind with the freedom that wildlife enjoys in sparsely populated countrysides, in territories essentially inhabited by native populations attached to the land, who are relatively untouched by urban influences and have resisted capitalist modes of production. I needed to live there and talk with the inhabitants if I was to get a clearer idea of their relationship to an environment which they referred to as the "countryside."

1. The Ramsar Convention is an international treaty to protect wetlands. In the United Kingdom, the Environmentally Sensitive Area and Specialty Scientific Interest classifications of agricultural land give rise to financially rewarding contracts between farmers and the government, to promote sustainable farming. A Special Protected Area is a European Union designation aimed at the protection of birds.

An English Countryside

In the parish of Wedmore, which numbered 3318 inhabitants in the 2011 census and is dispersed over three villages and fourteen hamlets, one encounters mostly city people, or rather ex-urbanites, whose establishment here, even recent or temporary, is regarded as an authentic manner of connecting to the countryside. To someone coming from France, there is something unsettling about walking around the village, for it is neither suburban nor rural. Lying a good distance from the surrounding middle-sized towns, it is reached by small winding roads flanked by hedges as high and straight as walls. Then, as one strolls down one of the two main streets that intersect near the fifteenth-century church of St. Mary and its old churchyard, one is struck by the intermixture of city and countryside. Shops and homes succeed each other in serried ranks down the length of The Burrough, next to a working farm (the only one there), which appears to be the residence of a prominent citizen, with its carefully flowered front garden and tractors parked out of sight in the back; a rather old-fashioned tea room with brightly colored, vegetable-patterned tablecloths, where delicious cheesecakes are on offer; a restaurant serving home-made organic vegetable soups; four pubs, one of them run by a nationally renowned chef and restored to an ultramodern design featuring rough timber, to which people come from miles around; a well-stocked grocery store with a newspaper and magazine corner; a butcher shop (a sufficiently rare occurrence to be underlined); a drug store; two shops selling interior-decoration articles; and several boutiques of elegant women's clothing … the whole in an architectural setting of two-story houses giving on to gardens, their facades of exposed stones replacing yellowing stucco lending them a charming air of times gone by.

At once very "posh,"[2] as the locals remark, and very "countryside," Wedmore defies conventional categories. Pointed comments on the exorbitant price of shoes or wedding outfits by bargain hunters from London who come to shop do not exclude enthusiastic pronouncements about the simple life that one leads in this "lovely and friendly" village, far from the lights and vanities of the city. A retired couple who have

2. A term that signifies swanky and rich, possibly formed from the first letters of the expression "Port out, starboard home," for the side of the ship on which the most sought-after cabins were located, as they were less exposed to the sun, on the journey between Great Britain and India.

been living in the parish for forty years mention these contradictions in a book they have written about the region:

> The people who live there—and the population has increased considerably in recent years—still have many connections to the moors. Many families of long standing, with names going back hundreds of years in the parish registers, have resisted the rising property prices and rich newcomers, and live there still … There is some traffic congestion in the summer but Wedmore retains charming and delightful streets with many old-style shops, though they sell the latest fashions and food. (Williams and Williams 2003: 19)[3]

Acclimated newcomers are thus able to boast about the properly local character of the place despite the social changes that the mobility of middle- and upper-class arrivals have brought.

A better idea of local life is reflected in a list of the collective activities announced in the July 2010 issue of the parish *News Magazine*, including clubs, groups, charity organizations, and assorted events: the "Sugar Water Curls Dance Group," aerobics, a "Mums and Toddlers Meeting," the "Lions Charity Golf Day," the Street Fair,[4] a "Churchill Singers" concert, the Badminton Club, a Women's Charity event, the Bridge Club, a Quiz Night, a "Transformation" Hatha Yoga class, a Green Group meeting, the "Farmers Preserving Club Clay Shoot and Barbeque," an organized visit to the Arnos Vale Cemetery, a Peace and Meditation Evening, a *Trial by Jury* opera evening, a produce market, a "musical picnic," a parish walk, the "Air Ambulance Charity Auction and Fund-Raising Day," a meeting of the Gardening Club, a Royal Society for the Protection of Birds lecture, and so on.

Between charity events, sporting or spiritual activities, cultural gatherings, meetings of social and mutual aid groups, encounters of associations for the promotion of local development, moments of cheerful village sociability, nature outings and talks, activities and social occasions are not in short supply. The plethora of associations (which has no equal in France) is a reflection of the composite countryside where each

3. The average price of a house at Wedmore is among the highest in the region, or about 600,000 pounds sterling in 2022.

4. A cattle fair existed at Wedmore in the nineteenth century. The last fair was held in 1915 but was revived in 2010 as a street fair with the slogan "A village market, not a supermarket."

inhabitant feels duty bound to participate. Elective social encounters cover a broad field of possibilities offered by pastimes, hobbies, mutual aid and charity events, for in taking part in them the inhabitants feel they are contributing to the reputation of the locality, encouraging others to join in, experiencing the usefulness of their actions and their local presence, and thus substantiating the English belief that the common good is the business of everyone (see Massard-Vincent 2008).

Subtle differences having to do with wealth, the profession of the participants, the region they come from, their politics and values, mark individual meetings.[5] "Not my scene," may be said by an agnostic referring to the church group or a woman comfortably established in modernity when invited to speak at the Woman's Institute,[6] or by a member of the local Green Group talking about the Farmers' Preserving Club which is run by a handful of hunters of agricultural vermin (foxes, magpies, and crows), or about the group in charge of planting flowers around the parish. As in cities, membership in these groups is elective and leads to compartmentalizing. Members of the Green Group tend to read *The Independent*, a daily newspaper said to lean to the left and to report on ecological issues.[7] They do not—or not often—associate with regular attendees of Sunday Mass at St. Mary's, though some of them occasionally sit together in the pews, as on the occasion of cleaning the parish ditches and roads promoted by the priest and his assistant (who is also a volunteer in certain conservation organizations). As for those involved in cattle breeding, they sometimes complain that Wedmore is becoming a village of urban dwellers who have little connection to the land; at times they criticize them openly, as when they discovered that a member of the Green Group had decided to place an orchard and a wood at the disposal

5. English society is traditionally structured less in terms of large class distinctions than in terms of group affiliations that allow one to declare oneself and to declare others "in" or "out." See Porter 1990.

6. The Woman's Institute is a British organization founded in 1915 to revitalize rural communities and to encourage women to take a greater part in them.

7. The Wedmore Green Group numbers roughly twenty active members. Its collective activities range from projects for reducing electrical consumption and managing waste disposal to promoting local food production and environmental education (classes in pruning fruit trees, increasing awareness about the problem of disappearing bees, school outings with the capture and observation of insects, etc.).

of the parishioners (they were so outspoken, in fact, that one farmer was given permission to graze a few animals on the land in question!).

In Wedmore, then, compartmentalization and cooperation, disparity and unity, individual initiative and collective contribution need to go hand in hand. The rule runs deep, especially in the parish's rural areas where the ideal persists of every event and person being part of an encompassing social whole (see Rapport 1993: 32). Many authors have examined the historic construction of the English countryside as a social paradise counterbalancing unhealthy cities, and have stressed the contradictions and ambiguities within that particularly powerful dream of a "rural community" in a nation where the continuity between city and countryside and the importance of compartments and social avoidance are a very old reality. As Nigel Rapport stresses, "the source of the idyll of rural community … has been traced to a Victorian anti-urban bias, as industrializing towns came to be viewed by the middle and upper classes as unhealthy hotbeds of social unrest and political disorder while the countryside could be seen as remaining the repository of traditional and ideal values and the home of the ultimate status symbol—the country seat" (1993: 36).

The idea of the village with its constellation of associated images—a circumscribed social horizon, mutual acquaintances, organic solidarity among strongly interconnected individuals, long-standing presence of families, and scant geographic mobility—persists. However, unlike what Marilyn Strathern observed in the 1960s (1981: 4), references to the village as a group of interrelated families are becoming rare. The distinction between "newcomers" and "villagers" has also lost its edge in the minds of recent settlers, who refer to their place of residence as a "village" in tribute to authenticity and permanence rather than as a boundary and an obstacle to the feeling of belonging for want of being born there. The quality of being "born and bred," which is reserved for the now few who can lay claim to local belonging and identity, operates merely to assert that Wedmore is a proper village thanks to the fact that it still numbers a few old local families.

At present, the sense of belonging thus depends on participation rather than on descent—hence the effervescence of local activities—residents make the qualities of the place their own, rather than the place endowing them with inherited qualities.[8] And even if the locals wanted

8. The definitions of belonging do not rest on an original link with the region as obviously as they do in a French village. See, for example, F. Weber 1982.

to assert the symbolic monopoly of being native, the proliferation of social scenes in the village and the demographic importance of people from elsewhere and holding jobs in Bristol or in one of the neighboring middle-sized towns have gradually meant that the former duality is just another difference. For that matter, as Henry Buller (1997) writes, it is difficult to quantify the relative weight of the urban and rural populations in the countryside, and especially hard to differentiate one from the other sociologically, as, from a certain viewpoint, there is not much difference between them: both are well represented in the tertiary sector and above all both are particularly mobile, as, depending on the circumstances, they move back and forth between town and country.

This reality is accompanied by a new manner of describing social change: "working villages" are thus distinguished from "sleeper" or "shopping" villages. Behind these categories lies the level of gentrification of the local society. It is commonly said of Wedmore that the leisure activities of wealthy people—such as opera-going, golf, and yoga—are developing at the expense of socially useful activities or offers of neighborly help and the small exchanges that underlie an economy of solidarity and simplicity, and yet do not alter the meaning of the expression "community spirit" proper to an authentic village.

Yet mutual support does exist at Wedmore and, when all is said and done, is more consistent than in a village like Burtle, in the heart of the wetlands, with its larger farming community. It can consist in putting aside vegetable scraps for a neighbor's poultry, taking a parishioner who is unable to drive to the doctor, placing part of one's courtyard at the disposal of vendors of local products, leaving a few vegetables from one's garden on a neighbor's doorstep, lending one's car, and so forth. While such exchanges do not entirely eclipse the fact that Wedmore is not an organic community and that some of its residents are centered on their own home, living as though in a city, the important thing is to assert and experience certain features of country living for want of which one might doubt the authenticity of that experience. And even though they go about their lives in a continuum between city and country not always easy to untangle, the fact of having left an urban or suburban center to reside in a place surrounded by a green belt hotly defended against the encroachment of new construction, among people whose faces are familiar even if their names are not always known, suffices to lay the groundwork for their lives as country dwellers. In short, in terms of social space (compact and solidary, centered round shops, schools, and church, and with access to services such as one finds in cities, rather than dispersed

as in suburban living); in terms of participation in collective groups (a plethora of which are on offer); and in terms of involvement with the surrounding countryside, residence becomes a rapport to a place that is experienced and manifests itself as a connection, as "belonging to the place."

As though in response to the intense geographic mobility that goes with frequent changes of employment or biographical vicissitudes, and the difficulty of saying where one is from (which is rarely the birthplace of one's parents), the desire to belong imparts to resettlement a flavor and value far beyond mere attraction or idealization of the countryside. Something important is involved, as if the choice to live entirely in town would be to cut off a very English part of oneself, a connection to a territory that plays an active part in fashioning an individual—or a mental universe built around the quality of being born and bred in a particular place, invariably associated with a rural context—linking that person to the land with a long historic and mythic bond, with known forbears or unknown ancestors, connecting him or her to a countryside from which people fled at the coming of industrialization in a massive rural exodus. But it is interesting to remember here that the nostalgia for the country has drawn strength largely from a de-ruralization of towns, the contraction of gardens and orchards, the disappearance of trees and flowers linked to an ever-tightening network of buildings. With its urban "amenities," gardens, and intertwined built-up and green areas, a village like Wedmore is the very essence of a good place to live.

Broken connections calling to be restored, like a tree severed from part of its roots—this is indeed a serious reason. The color of leaves, the wind in one's hair, the texture of bark, the scent of a freshly cut flower seep into one's being. They become part of those who live in the country and who, were they in a city, would feel that part of their human condition was missing. In the words of one Wedmore inhabitant, "all kinds of people, if they live in town, have the feeling that they are going about their lives in a sort of foreign environment to which they don't belong. But almost everyone responds in one way or another to the countryside. We all need it, don't you think?"

Connecting

For millions of English people, the countryside is thus an obsession, either as a personal engagement when they have settled there or as a

prospect they aspire to. There are innumerable television programs about buying village houses. The English have moved to the country or dream about it when they feel trapped in a city where they feel surrounded by crowds, anonymous, gray, tormented faces under streetlamps.[9] They choose to live instead where in theory everyone has a garden and an individual house and human beings are outnumbered by other lives; where they feel themselves fortunate, like farmers and others connected to the land, to have a bond with the soil, landscapes, animals, and plants that live there, just as they do.

Living in the country means at once encountering a hen walking about in the back of a garden, buying fresh eggs from a farmer neighbor, delighting in a flowered garden or a blossoming buddleia with its purple flower spilling over a dry-stone wall, hanging birdhouses and bird feeders from the branches of a fruit tree planted next to a kitchen window or terrace, strolling down a lane along a meadow bright with poppies where butterflies flit about and milk cows graze, hearing the first springtime call of the cuckoo (*Cuculidae* family), greeting a magpie on one's path, admiring a wooded landscape with its crisscrossing hedges on the outskirts of a village, meeting a tractor leaving great lumps of earth on the main street, selling apples from one's orchard to a cidermaker, planting a tree, making an inventory of the flora in one's parish, photographing a foraging bumblebee, keeping bees and selling the honey at the local butcher's, growing vegetables in a patch of land rented for a modest sum from the parish council, raising a few goats and ducks, experimenting with a new fish-farming method in a shallow basin, rambling through and discovering with emotion stretches of countryside that bear the marks of human activity going back to Neolithic or feudal times …

Situated between what appears to belong to immediate nature—a physical awareness of trees, birds, and the contours of the land—and a working agriculture that in fact produces much of that natural world, living in the country thus means several things in terms of feelings and activities (see Raymond Williams 1973: 11–13). There are untold numbers of regional books, like *The Natural History of the Somerset Levels* (Storer 1985), containing descriptions of the human activities that have shaped the agrarian landscape over time (draining, the use of natural resources, farming methods) and of the life of the local fauna and flora that together have created the history of the place. One writer who lives beyond the

9. A recurrent description of cities, among which London is emblematic, also often mentioned in literature.

parish limits, on the hills overlooking the Somerset wetlands, describes as follows the singular landscape he loves:

> Tealham Moor forms a low-lying, distinctive, separate area on its own. It used to be peaty marsh grazing, much of it permanently flooded and still has a hint of wilderness behind its grazed surface … The fields are divided by long, rough-surfaced tracks called droves … The wildlife is splendid, ranging from Bewick's swans in winter to drumming snipe in spring and yellow wagtails flirting with their tails on the gates for much of the summer … All this makes an impressive package. (Robin Williams 1995: 13)

This "package" imparts to the term "countryside" a connotation that is at once agricultural, landscapist, and naturalist.[10] Thus among the local figures who matter, we find farmers, of course, cheese makers, basket weavers, peat diggers, and other persons connected with the land; but also lovers of archaeology, geology, botany, entomology, members of learned societies or clubs. This diversity of types of involvement is part and parcel of the historical and social fabric of England's countryside, and comes from the presence of educated "countrymen" and urban dwellers exploring the country around the city they reside in, keen upholders of regional culture who enthusiastically nourish their knowledge of the places they explore, principally through the lens of social history, archaeology, or natural history.[11] There are thus different ways of connecting with the land, all of them legitimate and authentically rural, whether they involve farming, or protecting, admiring, or studying the natural world.

Here the authenticity of the bond with nature is not linked to the imagination of an inherited peasant culture or to the existence of folk traditions like hunting as it is in France. The English countryside is

10. The title of Oliver Rackham's *History of the Countryside: The Classic History of Britain's Landscape, Flora and Fauna* (2000) is particularly significant in this respect. Rackham is an exponent of an ecological approach to the history of landscape.

11. As the local historian Robert Dunning emphasizes, "the natural history of the landscape is a less conventional part of the history of man in the countryside, and yet serves as an introduction to a more traditional story told through archaeological remains and written records. It is a story which begins with the earliest traces of human activity after the end of the Ice Age and continues as each day something is created and something is destroyed" (1983: 13).

an inextricable tangle of natural and human presences that influence and/or care about its future, without any need or reason for considering them separately. These different manners of connecting sometimes clash, as when the wetland farmers who favor killing badgers said to be responsible for transmitting bovine tuberculosis encounter members of the Badger Trust or the Royal Society for the Prevention of Cruelty to Animals staunchly opposed to their destruction; or when they deplore the hydraulic management of the marshlands under the growing influence of environmentalist engineers, who are occasionally suspected of hoping to flood agricultural wetlands in order to turn them into reserves of biodiversity. Exacerbating these occasionally virulent conflicts is the decline of animal and plant species in Britain and the increasing numbers of conservation and protection bodies dedicated to their rescue.[12] Some people, like those who regard themselves as legitimate offspring of the country, mainly farmers and landowners, might view these conflicts as threats to the old, foundational, and conceptual link between "countryside" and "farming." But also, as sociologists of the countryside, one could describe the present period of profound historic change as a shift from the rural to the environmental,[13] a foreshadowing of a new, postindustrial era.

Nevertheless, environmentalist groups that are currently convinced of an irreconcilable dichotomy between everything pertaining to nature, on the one hand, and contemporary farming methods, on the other, are not making much headway in the Somerset countryside. When in the late twentieth century Marion Shoard or Graham Harvey brought out their respective books with titles that ring out like alarm bells—*The Theft of the Countryside* (1980) and *The Killing of the Countryside* (1998)—and that expose the devastating effect the intensification of farming methods was having on wildlife, they still chose to speak of the countryside as being neither altogether rural nor altogether natural but a composite of

12. In 1977, the publication of *The Somerset Wetland Project*, which recommended designating areas dedicated to farming, extracting peat, and conservation, stirred heated discussions among farmers (see Junghanns 1987). The conflict reached a peak in 1983 when classifying all of the lowlands as SSIs (Sites of Special Scientific Interest) became a real possibility, and effigies of several conservationists were burned.

13. Echoing the title of a collection of essays edited by Nicole Mathieu and Marcel Jolivet, *Du rural à l'environnement: La Question de la nature aujourd'hui* (1989).

the two. In the same spirit, wetland farmers sometimes set up birdhouses in their backyards and or join programs for reintroducing birds, as for cranes. Generally speaking, they take no pleasure in the disappearance of species, not even those regarded as pests. Likewise, administrators of nature reserves consider themselves "wildlife farmers" and rally the support of neighboring farmers for maintaining pastures. Indeed, they could not imagine the wetlands without hay bales or cattle; they tend to think that well-managed interventions on the environment are beneficial to the fauna and flora, more moving and pleasing to the eye than untended land.

Hence, too, the absolute necessity of together taking care of the countryside, which reflects fears about its deterioration and even disappearance. Laments over the announced death of the countryside are nothing new in Britain. They are a recurring motif over almost the last three centuries, deploring the assaults of urban sprawl, land-use planning, administrative decrees from governments indifferent to local customs and resulting in a transformation of agriculture and landscapes. The criticisms they convey depend on the period, on whether they are formulated in the seventeenth century by small landowners and users of common land in reaction to the Enclosure Movement (Porter 1990), or are put forward in the twentieth century by the landed elite, who, faced with criticism about lack of access to rural areas, hold that the only genuine stewardship of the countryside for the benefit of all lies in the system of large estates (see Carré 2003). Recently, the Countryside Alliance for the defense of foxhunting has presented itself as the ultimate rampart against the transformation of the countryside into leisure parks for "idealistic, leftist, vegetarian" city people (Lowerson 2003).

But the issue that has obsessed English society for decades, particularly the middle class, concerns above all the future of plants and animals. As Graham Harvey puts it, "the number of a wide range of wildlife species has fallen dramatically. The skylark [*Alauda arvensis*], the lapwing and the corn bunting [*Emberiza calandra*]; the barn owl [*Tyto alba*] and the gray partridge [*Perdrix perdrix*]—birds that were once an everyday part of the farming scene—are now in steep decline" (1998: 2). Everyone is devastated; the situation is dire. All of the familiar birds mentioned here, often encountered, indissociable features of the farming landscape, are deserting it, fleeing it, no longer thriving, avoiding it. The English countryside is emptying, putting an entire segment of England's shared history, at the heart of which all that pertains to human presence and the freedom of animal and plant life, or to the modifications of soil or

geological structures that cannot really be separated from them, under threat.

For the countryside is a legacy in the strongest sense of the term, combining buildings, gardens, marshes, hedges, forests, rivers, and rocks, which form a whole whose configuration imparts a unique character to place. There is no natural world whose history cannot be studied in the same way that a historian would study the social history of a village. Thus, one might very well envisage cutting down trees in Cheddar Gorge in order to recreate the bare rocky landscape shown in old postcards, suitable for sheep pastures and at the same time providing a propitious habitat for Cheddar pinks (*Dianthus gratianopolitanus*) whose delicate, fragrant pink flowers proliferating among limestone outcrops were reported three hundred years ago and which are now considered a rare and vulnerable plant. It is the simultaneous presence of land-management schemes, living beings, minerals, prospects, and viewpoints, that gives form and consistency to each person's own "special piece of England," in the words of local scholar Robin Williams (1995: 7).

Keeping Watch

Keeping an eye on, watching over, taking care of, supporting, intervening … In England, in an original way, philanthropy is not limited to aiding humans. Numerous charitable trusts have examined the question of the fate of the countryside; they have done so throughout the nineteenth and twentieth centuries, evincing a very early interest by comparison to other European countries in protecting species, landscapes, and historic monuments (Mathis 2010). The mission of trusts was defined in 1601 in the Charitable Uses Act, which applies to four carefully designated areas: encouraging education, promoting religion, eradicating poverty, and any charitable purpose benefiting the community. This last point—serving the community—has made it possible for landscapes and the natural world to be protected as well. But in this particular case, animals, plants, and actual landscapes may also benefit from charitable attention. The injunction to protect is thus twofold in Britain. The first rule consists in considering living things as beings that require aid, hence the curious expression "animal charity," integrating animals fully in the community shared with the needy to whom one extends kindness, pity, generosity, benevolence, and a spirit of solidarity. When Susanne, known in Wedmore as "the old animal lady," adopts ageing, blind, or crippled

animals so that they can have a "pleasant and decent life," she speaks of this as a moral duty in return for the affection, aesthetic pleasure, work, and food they give humans. Taking care of crows unable to fly, sharing her home with a featherless parrot, walking around the village with the parrot perched on her shoulder, inviting damaged dogs and cats who live under her roof to her Christmas Eve dinner, taking a wounded animal found on the roadside to receive treatment at a Secret World Wildlife Rescue center, donating whatever money she doesn't require in her frugal existence to organizations that care for animals, all this partakes in the charity and the duty of reciprocity, over and above the bonds of mutual dependence and affection it creates.

One cannot help thinking of Max Weber, who showed, in *The Protestant Ethic and the Spirit of Capitalism*, the powerful effects of the inscrutable idea of predestination on individuals, pushing them to seek tirelessly, in temporal activities, in doing good deeds, in the love of their neighbors, in work and austerity, the signs and the confirmation of their salvation, which at the same time produces an unshakeable self-confidence.[14] One is reminded too of Keith Thomas (1984), of his description of man losing his top ranking in the world and his new sensibilities. Thomas points out that, as early as the eighteenth century, the Christian doctrine extended moral preoccupations to a sizable number of other living beings, and he says that this was not only acceptable but widespread in educated circles for whom laws of benevolence and universal kindliness were the norm. And though plants have thus far not been included in the duty of compassion, owing to their lack of feeling or because they do not communicate their suffering in terms that humans can recognize, the new ecological awareness of their vulnerability gives them a rightful place within the sphere of benevolence, not in the name of suffering but in that of their right to live and our duty to celebrate and assist them.

The second dimension of the duty to protect is based on the idea of public usefulness and what the English duly call heritage. Nature, inasmuch as it is an integral part of the countryside and local history and is interwoven in a network of close relations of interdependence forged over the centuries between humans, animals, plants, minerals, and

14. Protestantism promotes the idea of a single community of the elect designated by God. Good deeds, faith, and the sacraments cannot therefore be means of obtaining a salvation strictly subject to divine decree. No one can be certain that he or she will be chosen but all must act *in majorem Dei gloriam*. See M. Weber 2003.

artifacts, is a common good, and everyone in English society feels they have a stake in it and should be able to enjoy it, even if they can't own it. Thus, the fate of wildlife does not depend on landowners alone or on those who live close to the soil. It is the legitimate concern of all English subjects for it is part of their shared history and their relations with each other. That is why so many become members of charitable trusts. Their numbers are the envy of French associations of naturalists and institutions for the protection of the environment or of historic heritage sites.

Conservation trusts have existed in England since the second half of the nineteenth century, with a notable increase in their founding and membership over the past three or four decades. Some have a generally patrimonial objective, like the National Trust for Places of Historic Interest and Natural Beauty, founded in 1895, which exercises its conservation efforts in managing historic buildings and natural sites. In 2012 it had almost four million members, compared to 680,000 in 1980.[15] Others, focused on plant and animal protection, specialize in certain taxa, either as a group of living beings such as invertebrates (Buglife, founded in 2000) or as the taxonomic rank in the classification of a kingdom (Plantlife, 1989), or as a class (Mammal Society, 1954; Royal Society for the Protection of Birds, 1889; British Trust for Ornithology, 1933), an order (Butterfly Conservation Trust, 1968), a genus (Bumblebee Conservation Trust, 2006), or even a species (Badger Trust, 1986). Some of them define their mission by dedicating themselves to different types of milieus associated with certain fauna and flora: woods for the Woodland Trust (founded in 1972) or land and water for the Wildfowl and Wetland Trust (1946) or the Fresh Water Habitats Trust (1988). Still others, taking a broader view, build their action on a territorial basis corresponding, usually, to the historic and administrative limits of a county: the Wildlife Trusts, totaling thirty-six branches in Britain, the first of which were founded in the 1960s, with an overall membership of about 800,000.

In Somerset County, reflecting the broad array of reasons for joining, "to help nature to recover from the decline," there are thus no or few animals, plants, milieus, or portions of countryside that are not sustained by a collective body that does not have an eponymous human counterpart. A seasoned eye can thus identify a highly favorable reserve for butterflies

15. The National Trust owns or runs more than 220 sites covering some 674, 000 acres, plus roughly 745 miles of British coastline, making it in theory the second largest landowner in Britain after the Crown. See Shine 1999.

in Great Breach Wood thanks to its management by a lepidopterist, or a good spot for dragonflies at Perry Mead associated with the surname of its manager and the trusts mobilized. There, too, as in Wedmore, the social scenes are manifold. Under the umbrella of conservation, one finds naturalists of the erudite tradition of natural history working alongside activists committed to the prevention of cruelty to animals; members of the Ramblers at the Heart of Walking foundation, who militate for more access to country lanes; ecologists involved in the management of nature reserves; gardeners who want to keep enjoying the sight of birds flying about in front of their cottage windows; history and archaeology buffs concerned with landscape change; and so forth.

"In the late '70s, winter flocks numbered in the thousands; one also saw lapwings [*Vanellus vanellus*] in the mating season, western yellow wagtails [*Motacilla flava*], redshanks [*Tringa totanus*], but at present there are only a very few left here on the Levels," remarked one Wedmore resident. Upset and obsessed by this depopulation, many of the locals commit themselves to helping nature keep its promises of proliferation and to reverse the decline in species and damage to the environment. Some participate in the census of garden birds for the RSPB (in 2017 nearly half a million people took part in the Royal Society for the Protection of Birds' "Big Garden Birdwatch") and turn their garden into a welcoming spot by setting up basins of fresh water for birds to drink from and bathe in, installing birdhouses for owls or kestrels to nest in, or building shelters to attract house martins. Others sign petitions for new European laws upholding the protection of species, take an active part in creating a nature reserve close to where they live, or mobilize to oppose the building of an airport.

Their numbers include the rather special case of members of learned societies, which are also considered charitable organizations inasmuch as they make a vital contribution to understanding and protecting the natural heritage. Knowing about the countryside has always been part of defending it. In point of fact, scholars have played a substantial role in making landscapes and nature part of local histories, in bringing them into view as a heritage, in drawing up an assessment of the successive changes they have undergone, in exercising vigilance, and in testifying to damages observed at close range.

The Somerset Archaeological and Natural History Society was born in the town of Taunton, Somerset, in 1849, in the Victorian era, at the instigation of local scholars, many of whom belonged to the aristocracy and the county clergy. It now brings together archaeologists, social

historians, and natural history experts, the three privileged areas for the production of local knowledge. But local groups have multiplied to such an extent since its inception that in 2010 the old society reported a decline in its membership due to increased competition from associations acting on a smaller or more specialized scale. At present there are as many learned societies in Somerset as there are large towns. Altogether they number some thirty-nine groups, not counting the fact that many of their members are also affiliated with national learned societies.[16]

Natural history is thus one of the possible approaches to the countryside. In England this interest, prestigious for some, dry for others, is not residual; it is widely shared, even though the initiates who can actually call themselves "naturalists," specialists of natural history, are only a relatively small portion of the population, at most some thirty individuals in a parish like Wedmore. In fact, one soon gets to know them when one goes to meetings of the Green Group which, although they do not all attend, allows them to be identified according to their interests: Liz is an excellent botanist who has inventoried the plants growing in the parish and is active in the Rare Plants Group; Robin wrote about the social and natural life in the Somerset marshes, is the author of a three-hundred-page study of tree parasites, and has taken a particular interest in insects; Stephen is an expert on birds, a renowned journalist who has written several books on the social history of birdwatching; Anne and David are deeply involved in counting birds for the British Trust for Ornithology; Elizabeth has undertaken an inventory of the flora in her village hedgerows; Simon is heavily involved in studying the floral diversity in various of the region's nature reserves, etc.

Residents of Bristol, Taunton, Glastonbury, Wells, or small villages in the Somerset area tramp up and down country lanes alone or in groups of fifteen or so, examining and investigating the diversity of living beings in their chosen taxon. Although few of them can be called actual experts, they are neither isolated nor representatives of a marginal phenomenon limited to a handful of fervent enthusiasts. A simple glance at the groups to which they belong reveals a complex architecture of institutions and bodies closely or less closely associated with naturalist knowledge and expertise. In addition to the time he spends observing the buzzards that live in a small valley just outside Bristol, Robin is active at a bird-ringing

16. Such as the Botanical Society of Britain and Ireland, the British Archaeological Society, the British Bryological Society, the Royal Entomological Society, the Mammal Society, and others.

center, is a member of a birdwatching club, lectures for the Somerset Archaeological and Natural History Society, counts birds for the British Trust of Ornithology, and is a member of both the Woodland Trust and the Wildfowl and Wetlands Trust. At the invitation of an ornithologist from the British Trust of Ornithology, James took part in drawing up the third *Bird Atlas*; he is also involved in counting bitterns on the Avalon Marshes site managed jointly by the National Trust, the Somerset Wildlife Trust, and the Royal Society for the Protection of Birds. The birds in question are particularly treasured, but a bat lover can also join the local Somerset Bat Group, count bats for the Somerset Wildlife Trust, or become a member of the Bat Conservation Trust.

The number of such institutions is truly remarkable and makes the task of finding one's way through the forest of acronyms structuring the landscape of lovers and observers of the fauna and flora (now narrowly associated with the rapidly growing field of nature conservation) particularly challenging.[17] There is something strangely obsessive and serious in examining a territory and taking it in hand to such a degree. No living being escapes the minute observation and systematic investigation of its ways of living. I can still remember Edward explaining to the French ethnologist that I am, "There are a lot fewer species here than in France. This has been the case ever since England was separated from the continent. For example, you have splendid bat populations, I mean up to thirty thousand at times in a single cave, as in the Ariège, but very few people are interested and most of them are professionals. Here we have this network of enthusiasts, more than ninety groups throughout the country. We have all these bat people and a lot fewer bats. You have all those bats and no one to care for them!"

Imagine what it's like, inhabiting a land no bigger than a pocket handkerchief surrounded by the sea, unable to count on geography for adding new singular and animal species (relatively few of which are native compared to its continental neighbors); inhabiting a land where a proportionately larger number of humans dwell, many of whom care about the existence of other living creatures although they outnumber them;[18]

17. According to RSPB sources almost three million people in England are involved in birdwatching on an occasional or daily basis.

18. Peter Marren notes that "we outnumber every wild mammal found in Britain, with the possible exception of the field vole. We outnumber the commonest wild bird by about five to one. If we all had a decent-sized garden, there would be no countryside" (2002: 13).

inhabiting a studied, visited, cosseted, but also methodically administered land. There is no parcel of the natural world here that can go about its own business without being scrutinized, without somebody wanting to take charge of it. Some English people might say that it cannot be otherwise in a country marked by insularity—"a lonely island in the middle of an empty green sea," as Bill Bryson writes (2015: 34). In all events, this is indeed a unique configuration, articulating a particularly salient, durable, fourfold heritage: rural, moral, erudite, and managerial.

This survey gives us an idea of the ubiquitous reference in England to the notion of countryside that seems to underlie all other categories, particularly that of wildlife: hence the odd expression, "save the wild of our countryside." Equally puzzling is the difficulty in understanding the conceptual oppositions that people in England use, like those between city and countryside, wild and domestic, artificial and natural, as the frontiers between them often seem porous. There isn't a space that is not in the hands of humans or is not socialized; there isn't a countryside that does not form some sort of continuum with a city. Even a scholar would find it difficult indeed to come up with a clear distinction between what pertains to the work of humans and what to the natural world. But this would almost certainly be true for many European countries where the distinction between *érème* (civilization) and *écoumène* (wilderness) is blurred by concrete facts of use planning. As Augustin Berque observes, which of us can actually separate in practice what belongs to culture from what is nature, the subjective from the objective, the collective from the individual? When humans develop their environment according to the way they represent it and perceive it depending on how they have developed and use it, when the representation itself is part of the environment it represents and the schemata for apprehending reality transmitted by the group exist only for and by each individual, the milieu becomes a mesh of the terms that compose it. It is engendered by the interweave of practices ceaselessly making use of it, which in turn become matrices of how it is apprehended and experienced (Berque 1986: 148–53).

Everything is socialized in the Somerset countryside and caught up in a network of human interactions, whether we are talking about developing milieus favorable for the habitat of this or that species of butterfly or, as at Shapwick, using bulldozers to create a nature reserve from scratch, or admiring a tree and thinking of its long existence linked to the domestication of the environment, or looking at the parish as a space of interwoven relations with the *wild*. "Wild life" is not equivalent to

"wilderness," which makes it possible for "rural wildlife" to exist. The wild can spring up in the middle of a cultivated space, along a roadside, between cracks in a sidewalk. As its name indicates, the word tends to designate a quality and manner of living of a portion of the fauna and flora when it evolves spontaneously, reproduces, disseminates according to its own logic, and behaves in keeping with its own nature, without ceasing to interact closely with humans. This acceptance recalls that of the Greek *phusis* and is operative in practices as well as in conceptual categories, no doubt reflecting the remarkable influence of natural history. In this instance the tendency consists in viewing the natural world as a milieu that connects individuals and that surrounds them. Like "English gardens," where the wild is created by artificial landscaping, such categories seem to be more useful for understanding, blurring, and favoring relations than for creating separate categories of living beings and inanimate things.

It is therefore preferable to speak of socialization rather than mastery, for the relational is essential in a world where everything is strongly and reciprocally interconnected. The territory as a whole is conceived as a "vast garden"—which is in fact the name given to all of the south of England—where humans and other living beings, cultivated and wild, live in proximity to each other. There isn't a scrap of land, not a plant or animal species, not a living creature, not a landscape with which individuals or groups of humans are not connected and assemble or organize collectively in view of forging chosen, desired relations. The latter are even essential constituents, not a surrounding, not a result, but a prerequisite, as if they were part of the way people and groups are made (bat people, bird people), who in return take care of that which makes them what they are, to such an extent that the concern for the countryside has become a fundamental social and moral value of the feeling of belonging to the country. *Countryside*: on the side of the country.

Figure 3. *Watching Mammals*. Shirley Hughes, in Moor, *The Boys' Country Book* (1955), p. 237. (All rights reserved.)

CHAPTER 2

Bonding

In England, the figure of the naturalist is well established both socially and culturally, and is historically consistent. It has historians, such as David Elliston Allen (1978, 2010); it has its written works in abundance, its celebrities, readers, adept practitioners. That the latter sometimes write autobiographies—like W. Percival Westell, *My Life as a Naturalist* (1918); or much more recently Peter Scott, *The Eye of the Wind: An Autobiography* (1961); or David Bellamy, *A Natural Life* (2002)—testifies to this in a singular way. It was thus necessary to examine this interest in the world's visible dimensions, that is, its phenomenal reality, as rendered in narrative of the biographical type. The naturalist experience resonates in England like a rapport with nature that echoes far beyond specialist circles, for the practices and expertise of its adepts cannot be conceived other than as a point of contact between knowledge, experience, and existence. It is through the articulation of their deep commitment to and their in situ observations of fauna and flora that naturalists work. Membership in an institution or group is not enough to create a bond with the living. It is no doubt this that distinguishes naturalists from their fellow countrymen, as their pursuit assumes a total commitment to interiority and self-construction. Moreover, this mode of knowing implies that a personal connection arises with the beings one is striving to know; it is in short a science in which a person bonds intimately on a particular occasion and often for life with their chosen living creatures.

This is why naturalists are prone to relate the origin of their predilection by tying it to an account of nature that is also highly personal. They do so in their writings, generally once they acquire public notoriety, and in the testimonies they offered me. The existence of writings that inspire even as they echo one's own experience doubtless influences how a person gives words to a destiny both individual and collective, for oral and written accounts agree to a remarkable extent. We can then treat these narratives as sources allowing us to perceive the way in which a relationship with the natural world in England involves both one's identity and the construction of one's self. "To make a naturalist": the expression crops up regularly. Stress is laid on the process of producing a future that begins as an inclination, sometimes a childhood revelation, and goes on over the years to fashion the existence of the naturalist part of a self.

Genesis

"This is how it all began …" Dudley, volunteer head of the Somerset regional Butterfly Conservation and a retired shoe factory director, still remembers the day, in a school in the London suburbs, when silkworm larvae from the Lullingstone Castle farm in Kent were brought into his class. He was nine years old. He became interested in raising caterpillars. In a shed at the bottom of the garden he closely observed the process that leads from egg to butterfly, and learned to associate the plants each species of butterfly needed. "I remember that, since childhood, it was butterflies that interested me. They show you the wonders of the natural world in a very accessible way."

Robin, who specializes in the behavior of the common buzzards he has been observing for thirty or so years, worked for the BBC's Natural History Unit in Bristol and took part in making documentaries for television and radio. He locates the first signs of his naturalist leanings in the period when he boarded in a London school for orphans (his father died during World War Two). He remembers walking by himself on the school grounds where there was a beautiful lake that immediately fascinated him. On being awarded a school prize, he asked for a bird book and subsequently drew a map of the school grounds, showing the nesting places of the different bird species he had been able to identify. "The most tremendous thing is that you want to get to know the animal, its colors fascinate you. It behaves in an interesting way. Whereas some boys would spend hours kicking a ball around, I would be watching birds."

Liz, locally regarded as a knowledgeable botanist, a leader of the Somerset Rare Plants Group founded in 1997, has completed several inventories of flowers as a part-time employee for organizations like Natural England[1] and declares that she owes her "love for plants" to growing up in the Somerset countryside. She has spent many hours outdoors gathering wild plants, often in the company of her mother, who loved to surround herself with flowers that she grew in a large garden, picked in fields and along country lanes and made into bouquets to adorn her home. They brought back specimens, and Liz dried them in a notebook she used as an herbarium. By leafing through the many volumes on plants on the family bookshelves, she learned their names. "It is how I related to the countryside, with all its forms of beauty," she pointed out. "But I also liked to know what that species was, I was always enquiring; I could see the shape of it and the color of it, but I like to know what it's called."

David, who participated as a volunteer in numerous bird counts and was long a member of a group of bird ringers at Chew Valley, joined the Royal Air Force in the 1960s, driven by a passion for electronics which found a congenial outlet in operating radar. He was eight or ten when he first developed what would become a lifelong interest in birds. He attributes this to the presence of a garden in front of his home: "Because there were little brown birds[2] in our garden, blackbirds [*Turdus merula*], song thrushes [*Turdus philomelos*], and hedge sparrows [*Prunella modularis*] or dunnocks."[3] But above all, as if in contrast with the bleak industrial and mining landscape of the surrounding northwest Birmingham "black country," there was the luminous, brightly colored bird glimpsed from a window. David still remembers the day: "It was in primary school, I looked out of the windows and there in the courtyard, I saw this wonderful bird. Brilliant colors. And I thought, goodness me, whatever is that, and I went rushing home and I had somewhere *The Observer's Book*

1. A national body for environmental protection with a semi-autonomous status: it does not depend on the government but is subject to its legal power. Its brief is to guarantee the protection of nature and the British population's right to enjoy it.
2. A name given to several small brown birds difficult to identify owing to their similarity. When an observer uses this term, this means ironically that he or she has been unable to identify the species.
3. The term dunnock comes from Old English. Dun is a dull brown, a dark color.

of British Birds. It was a chaffinch [*Fringilla coelebs*], a pretty reddish brown.[4] That really started my interest in birds."

Helena studied botany in one of the few remaining universities to teach this subject, then completed a PhD on vegetation sequences. She is deeply involved as a volunteer in plant inventories and is an official Botanical Society of Britain and Ireland[5] referee for botanical inventories in northern Somerset. She worked as a cataloger in a university library while obtaining her doctorate. After giving birth to three children, she quit her job to take care of them and devote herself to local botanical activities. She links her naturalist inclination to being lucky to have had a family environment that was very attentive to wildlife: grandparents who were avid gardeners, a mother who taught biology, a father who was a connoisseur of mushrooms and encouraged her to complete her *I-Spy Wild Flowers* book.[6] "We used to go for lots of walks. My father was very keen on fungi, so he used to take us out for fungal forays. When I was little and we sat down for a picnic, my mother sent us off on treasure hunts. She'd send me off to find ten different grasses, and I'd come back with what I thought were ten different grasses, and she would say 'that one's the same as that one, they are just out at different stages'!"

Edward, a retired lawyer, chairs the Somerset Bat Group. He describes an innate penchant that his family environment encouraged—his father had a real love for aquatic filter species—or at least did not discourage him. "I was just full of curiosity. My father's mother was a country woman who lived in a very rural area in northern Hampshire, from which she had escaped to go and live in London. But I think she always felt that she had left something behind by leaving the countryside, so she didn't discourage her son when he came home with jam jars full of bugs." Bats made a late appearance in Edward's universe, only some twenty years ago. He remembers the day when, after giving a concert in a small nearby church with his vocal group, he saw two bats of different size in the

4. The most brightly colored of the passerines seen in England.
5. Formerly Botanical Society of the British Isles. This learned society changed its name in 2013.
6. The *I-Spy* books were highly popular among British children in the 1950s and '60s. This series of small books covered a broad variety of topics such as cars, churches, wild plants, and butterflies. All followed the same principle: children were invited to check off the things or beings they had spotted and managed to recognize during outings. Once the list was completed, the book was sent to the publisher and in return the child received a certificate.

churchyard. He contacted Tony, an expert, who then took him to a tunnel near Exmoor. "It was then that I approached two bats that were half asleep, a small lesser horseshoe [*Rhinolophus hipposideros*] and a Natterer's bat [*Myotis nattereri*], as close as I am to you, and I then thought they were absolute stars. And I have been chasing them ever since."

These few selected narratives highlight the memories and themes that illustrate the birth of an enthusiasm most often hatched in childhood: the jolt at seeing a bird whose beautiful plumage amazes; a nudge from school or one's family environment; a connection with the countryside to be carried on; the reading of an illustrated book that enables one to identify species and marvel over the beauty of the drawn plates. But the most salient element is the desire and ambition to attribute a name to the beings that present themselves to one's gaze. Liz evokes this urge when she recalls constantly wanting to know the names of the plants she spotted during walks. So does Robin when he remembers identifying and charting the birds on his school's grounds, as does Edward when he says that he hurriedly sought a specialist to put a name to the bats he saw in the cemetery. Helena speaks of her treasure hunt for ten blades of grass, and David of looking up in a guide the brightly colored bird that appeared suddenly behind the window he was gazing through.

The recurrent theme in all these narratives—attributing a name—is crucial, for it involves transforming an indistinct or unknown plant or animal into something known and recognizable for the person naming it. The animal or vegetal entity presents itself as a totally new thing in the field of the familiar (David's hedge sparrow or Edward's lesser horseshoe bat) or it can be confused with similar species (Helena's blades of grass, Liz's wildflowers, David's "brown" birds) up to the moment when its singularity emerges. In the first case, the mysterious, unknown being that presents itself to the observer triggers an irresistible need to name it; in the second, learning its name amounts to imparting an existence to something that had been invisible or indistinct until then, as though lying outside the perceptual field. In either case the operation can hardly be considered ordinary. It has been thought about and related. It appears as one of the raisons d'être for nurturing a naturalist's inclination and reiterating it: for transforming something unknown into something known, something indistinct into something distinct, something unidentifiable into something that can be identified, something undifferentiated into a set of differences and similarities.

The desire to name is inevitably associated with childhood. Because the world doesn't always seem to them finite, known, understood,

children perceive their garden as a *terra incognita*. This is how Gerald Durrell describes his childhood memories in his autobiographical novel *My Family and Other Animals*: "This doll's-house garden was a magic land, a forest of flowers through which roamed creatures I had never seen before … At first I was so bewildered by this profusion of life on our very doorstep that I could only move about the garden in a daze, watching now this creature, now that, constantly having my attention distracted by the flights of brilliant butterflies that drifted over the hedge" (1956: 33).

Naming thus corresponds to that moment when, awed by the sight of a creature never previously seen or recognized, one is driven to give a consistency to the surrounding world, to begin to look at animals and plants and to consider them, to learn them, and to grasp them in words. The originating process is emphasized: the process of making the plant or animal exist both for oneself and in its environment. Hence in their accounts the children find themselves in a position like that of Adam given the task by God in the early days of Creation of naming the newly created creatures he is shown. And while no naturalist has the impudence or even the thought of making such a comparison, the use of the word "creature," which is widespread in England, even among naturalists, reminds us sometimes of early scholars, some of them parsons like Gilbert White, John Ray, and others who, by interesting themselves in naming fauna and flora, celebrated in this way divine creation, taking pride in knowing and recognizing it (Armstrong 2000). When it comes to producing an account of the genesis of a vocation, later on, this parallel is possibly invoked, at least in literature, as is the case with Gerald Durrell recalling his garden as an Eden, a forest of flowers.

Nonetheless, naturalists are not the contemporaries of those who regarded knowledge and naming as an act of faith or a sovereign act, like Francis Bacon, who thought that "the true end of knowledge is a restitution and reinvesting (in great part) of man to the sovereignty and power (for whensoever he shall be able to call the creatures by their true names he shall again command them) which he had in his first state of creation."[7] In her book, *Une bête entre les lignes*, Anne Simon points out that Adam's naming in the second chapter of Genesis is sometimes translated as "imposing" a name and shifting toward one of the word's numerous meanings, subjecting or forcing a thing to submit. But as the

7. Francis Bacon, *Valerius Terminus: Of the Interpretation of Nature,* chapter 1. https://www.gutenberg.org/files/3290/3290-h/3290-h.htm#link2HCH0001.

author reminds us, "stopping with the idea that name-giving subjects and delimits would be to ignore the numerous exhilarating experiences of the lucky find—whether scientific or poetic … For humans eyes and ears are opened through the enrichment of language—a new world for a new word" (Simon 2021; see esp. 55–59).

Nor are amateur naturalists the contemporaries of those who took part in developing scientific classification. They are not involved in the taxonomic adjustments made at regular intervals in systems, genetics, and molecular biology laboratories. In contrast, they are fervent users of Linnaeus's universal taxonomy, which was first accepted in England in 1760 and is still the basic reference for classifying living beings. It is also associated with the scholarly convention of using two Latin names, the first to indicate the genus and the second to designate the species, sometimes with the addition of a third term to identify the variety, subspecies, or form. This is incidentally what distinguishes naturalists from country lovers, inasmuch as the former are able to mobilize, vertiginously and with an unparalleled confidence, the profusion of names associated with the impressive number of species which the nomenclature establishes as distinct categories of beings hierarchically organized in a system of overlapping or juxtaposed units. Naturalists therefore learn Latin names, a fact not unrelated to the prestige of their calling and not without the effect of feeling they belong to an educated elite.[8] As Christian Bromberger writes apropos of erudite passions, "one of the ingredients of these practices is the act of transforming the perceived into the named, elevating sensations into knowledge, translating into precise words what the ordinary person apprehends vaguely or perceives approximately" (1998: 29).

Naturalists also learn scientific names as a way of subscribing to the lineage of those who, in the seventeenth and eighteenth centuries, broke with analogies, with the so-called "imaginary" projections, and the symbolic significations inherited from the medieval period, preferring to devote themselves to describing the natural world on its own terms, a world that has its own autonomous, intelligible existence. Similarly, they belong

8. The ability to name is also a mark of one's social class. This is particularly true in the gardening world. Ordinary gardeners tend to grow brightly colored flowers that have common English names (daffodils, lilacs, and so forth), whereas more educated gardeners grow less brightly colored plants and use the Linnaean terms to identify their species or variety (digitalis rather than foxglove, vinca instead of periwinkle). I am grateful to Stephen Hugh-Jones for supplying these details.

to the tradition of the scholars who, from the sixteenth century on, gave primacy to sight over the other senses, such as taste and smell, and who learned to perceive selectively lines, patterns, and forms so as to distinguish natural body parts with the naked eye (see Bourguet and Lacour 2015).

Yet they also know and use common English terms, even regional ones, which they learned in childhood, or because they cannot resist the pleasure of uttering words and the images associated with them linked to sensorial rather than formal properties, to the color of plumage, a song, a behavior, sometimes even a moral quality. In point of fact, these vernacular names often go back to the Middle Ages; some of them derive from appellations used in other European countries, others were invented by English naturalists when discovering species for which they had no name. Naturalists are not the kind of persons who think that cattle breeders or eel fishermen lack a broad enough vocabulary to name nature's creatures or have a stock of words limited to the animals or plants they deal with. Keith Thomas (1984) has shown quite clearly that natural history has drawn on so-called folk knowledge, citing the early case of the ornithologist William Turner (1509–1568), who obtained much of his information from bird catchers capable of identifying rare species unknown to the naturalist. Similarly, there is no lack of later examples of fishermen or hunters like Anthony Buxton, the author in 1946 of *Fisherman Naturalist*, who are still considered talented naturalists.

Much has been written about the opposition between distanced positivist scientific thought and empirical vernacular thinking. While Claude Lévi-Strauss in *La Pensée sauvage* (1962) stresses the universal character of the thirst for objective knowledge linked to an extreme familiarity with a biological milieu and the passionate gaze that is cast upon it, he says nothing about specific botanical or zoological knowledge, which he excludes from what he calls the "science of the concrete," owing to its opposition to modern science. Yet, as we shall see throughout this book, it does indeed seem that the naturalists' knowledge of the physical world cannot be regarded otherwise than as a modern science of the concrete, not exempt from aesthetic values, sensorial qualities, and an altogether human significance, even though it is based on a system of classification purged of what was conventionally referred to, at the time it was developed, as "naïve projections."

That is why identification and naming cannot be reduced to an operation all too frequently viewed as a mechanical process that consists in matching a name to a species, replicating an order that is already inscribed in scientific literature. And though we are only dealing here

with discovery from the perspective of the discoverer, name-giving is the fruit of a long empirical experience that involves continual detailed observation, ceaseless repetitions required for spotting similarities and differences, permanent features and variations. Naming in this sense is a prospect rather than an enclosure, an endless activity leading to an understanding of taxonomy as a relational and categorial interplay, to explore rather than to tick a series of boxes.[9] It is a ceaselessly repeated process of disclosure and enchantment, as though it involved finding or personally rediscovering something that is nevertheless already known and registered, of naming anew and for the first time.

Indeed, childhood appears in these narratives as the ideal period for the first stirrings of naturalism. It is the time when many things do not yet have names or, if they do, one imagines things behind them; the time when the outer world gradually acquires outlines and a form, when an order and relationships begin to fall into place as one's personality is shaped in terms of the natural world one is getting to know. It is the time when one can indulge freely in repeated exploration of the sensations and emotions linked to play and learning, one of the possible forms of which involves collecting natural specimens. This astonishingly stable leitmotif of a particularly lively and durable inclination to itemize life-forms and place them in sequence, which is thought to characterize and personalize all budding naturalists, can be traced back over a century. In *The Life and Letters of Charles Darwin*, compiled by his son five years after the naturalist's death, the latter too mentions this moment:

> My taste for natural history, & more especially for collecting, was well developed. I tried to make out the names of plants (Rev. W.A. Leighton, who was a schoolfellow of my father's at M[r] Case's school, remembers his bringing a flower to school & saying that his mother had taught him how by looking at the inside of the blossom the name of the plant could be discovered) … The passion for collecting, which leads a man to be a systematic naturalist, a virtuoso or a miser, was very strong in me, & was clearly innate, as none of my sisters or brother ever had this taste. (Darwin 1887: 28)[10]

9. I will return to this topic in more detail in chapter 5.
10. Written by Charles Darwin himself, the autobiographical sketch quoted from here is titled "Recollections of the Development of my Mind and Character," and can be consulted on http://darwin-online.org.uk.

It was an innate inclination, Darwin says, not without a bit of self-criticism regarding the obsession with accumulating that can lead to taxonomic specialization, technical virtuosity for its own sake, or to collecting specimens without any aim at scientific knowledge. In all events, the taxonomic order is both a procedure and the frame in which the naturalist mind is grounded and thrives. It isn't necessary to be a systematist to experience this. The name, as Darwin recalls, springs to mind when looking inside a blossom … It is for this reason that Liz and many others feel close to and connected with the naturalist figures of the past, for they too possessed sharp senses with which to observe the natural world in detail, an astonishing encyclopedic memory reinforced by a common tradition of writing, and above all a wide-ranging mind capable of distinguishing the typical in the repository of individual specimens, a mind that compares and seeks what different things do and do not have in common (see Daston and Galison 2007).

Becoming a naturalist has thus something to do with the urge to name, the desire to know and recognize the greatest number of entities, with assembling and collecting them in a kind of vertiginous plurality. "All nature is so full," as Gilbert White wrote in a letter to Thomas Pennant in 1768 (1789: 55). The world of naturalists is indeed filled, at once with words for designating as objects, and, conversely, the identification of, the naming of things … Consequently, as they bring a considerable number of the world's objects into being by naming them, they simultaneously reveal an essential part of themselves. Their accounts thus describe a double genesis, that of the beings in nature that are named and that of the individuals who name them. The process of individuation and distinction functions analogously as a parallel between the observing subject and the observed being.

Coming into Contact with What One Loves

The pleasure of spotting the endlessly varied motifs of life-forms is thus identified with childhood in two ways: the first rests on a concept of childhood as the age that predisposes an individual to experience this type of cognitive wonder; the second suggests that we are dealing with an individual aptitude, an innate penchant, a spontaneous attraction, a quality that resides in a person and generally blossoms between the ages of five and ten. In the latter instance, when the inclination is confirmed and is still there in adulthood others may sometimes wonder at the strange habit

of certain grown-ups, of spending an incredible amount of time observing the larvae of dragonflies and other microscopic creatures swimming about in the shallow waters of a pond. Patience is one of the trademarks of naturalists. Even having outgrown childhood they do not squeeze reality into a few broad categories but extend it by virtue of their singular disposition never to regard the natural world as unremarkable even when it is familiar. Hence a naturalist cannot be recognized by what he or she has become—a scientist or a butcher—but by what he or she remains at any age. The insistence on regarding the interest in natural history as a permanent taste that cannot be limited to a corpus of expertise and know-how, or to something that cannot be reduced to a social background, anchors keen observation of the exterior in the private, intimate sphere of the interior.

Robin speaks of a "selfish purpose," Liz of an "intimate thing." It concerns individuals deeply, motivates them, moves them, stimulates them; it is "what turns you on, what you really get excited about." It can be cultivated and expanded, or temporarily ignored. Yet its purpose is inexpressible, for it is located "in that strange place in an individual, enclosed and invisible" that Pierre Pachet describes in *Les Baromètres de l'âme* (2001: 14).

Childhood accounts do not illuminate the origin of the naturalist propensity but they do track the moments when it was activated, ignited under the effect of external factors that echo an internal condition and confirm the existence of a spontaneous personal attraction that then arrives on the surface of things. For certain living beings and in certain places memories play this activating role: they open up a dormant awareness of living beings (and of the self). "Here, I first became conscious of the song of the Skylark," Peter Scott reports in his autobiography, in connection with the family holiday cottage in the coastal Kent dunes (1961: 11).[11] For Patrick Barkham the awakening came with butterflies at the Holme Dunes Nature Reserve in the 1980s:

> I was eight. For most of us, butterflies are bound up with childhood. Many of our earliest and most vivid memories of a garden, a park or

11. Born to an upper-middle-class family in London in 1909, Peter Markham Scott was the son of the famous polar explorer, Robert Falcon Scott. He is known both as a naturalist illustrator and as a writer; and for his sporting successes and his conservation activities in favor of wetlands and birds (he founded the WWT (Wildfowl and Wetlands Trust), presented the BBC's Natural History series, cofounded the current World Wide Fund for Nature, and so forth).

> flower will feature a butterfly … My love of butterflies began not with a blaze of colors but with a small brown job (*Brown Argus*) … It took a small brown job to make that (obsessive passionate) cell come alive … Dad and I returned to the dunes every day … chasing, identifying and recording every butterfly we saw. My butterfly brain cell fluttered into life. (Barkham 2010: 1–7)

A butterfly brain cell fluttering into life thanks to an encounter triggering a strong emotion and an attachment to a category of living being subsequently never disowned: such is the singular experience certain naturalists relate. This might be viewed as a manifestation of the autobiographical impulse. *Auto* or the quest for the "I conscious it is an I" as Georges Gusdorf writes (1991: 10). Or, as historians of private life like Alain Corbin or Philippe Lejeune show, the inflation of autobiographical writings at the turn of the eighteenth and nineteenth centuries is an indication of the modern, private construction of the individual (Corbin 1987; Lejeune 1971). But the writings I am talking about, like the oral accounts made to me, say something more about taste "as a problematic modality of an attachment to the world," as Antoine Hennion puts it (2004: 1). The insistence on regarding this attraction as activated rather than transmitted amounts to considering it as the outcome of an experience that occurs at the exact point of contact between the self and the thing that is loved.

This is why Barkham is quite insistent that, although his father, who had a passion for observing birds, used to take him birdwatching, curiously these outings gave rise to no obsession. "I was always happy to go … But nothing happened. In some receptacle of my brain, some small cell, the obsessive passionate cell, refused to twitch" (2010: 4). For this observer there was consequently a vibrant butterfly cell but none for birds. This biological metaphor for the infatuation with certain species rather than others is not widespread but it squares partly with the experience that David, Edward, and Robin describe when, seeing a living creature, they experience the revelation of a special interest for it and its fellows. They are unable or unwilling to explain the reason for this: the event surprises and overwhelms them, comparable to the equally secret and mysterious impulses that occur in what is aptly called "love at first sight."[12]

12. Daniel Fabre (1986) speaks of a "love quest" in relation to the passion for birds among young boys in biographical literary texts of the Romantic period.

Thus, while we can all agree that a passion for birds may persist throughout a person's life but would not exclude, for example, the birth of a new enthusiasm for dragonflies which ends by becoming more important, or becoming a plant specialist having started out drawing insects. It is nonetheless true that all the accounts mention a sort of revealed "natural" bond. The emphasis on an innate character that is already present though muffled, suddenly emerging into awareness, gives considerable power to the encounter with a particular animal (this is less true with regard to plants, which seem to lend themselves less readily to a face-to-face interaction that a person experiences as a shock). As in love stories, the reason for this enchantment is not to be found in sociological considerations or conceived of in terms of a social tradition or transmission, since its secret depends on a "magical" encounter between a person and an animal, with the difference that the sentiment in question is not regarded as reciprocal, the bird or bat never sharing that passion.

Although this motif tends to occur mainly in masculine narratives which stress the exceptional nature of the original encounter, as in hunting stories, it is nevertheless true that in all accounts the human environment is a milieu that encourages the enthusiasm to a greater or lesser extent, sustains or deters it, perhaps even frowns on it or makes fun of it, yet never determines its existence. Certain accounts insist on the fact that the pleasure may be shared by other family members, usually the father or mother, but this does not turn them into transmitters or incubators but rather into playmates.

Speaking of her youth in Surrey after her return from Canada where her family had taken refuge during World War Two, Anne tells of her outings in the countryside with her mother, emphasizing the fact that the attraction of observing and identifying is less transmitted than shared:

> I had an interest in wildflowers, I don't know why, perhaps because there just were a lot. I started going on wildflower walks with my mother. Neither of us knew very much. And my father, who was a keen gardener, used to really laugh at my mother and me, saying you going out working again? He used to think it was quite amusing but no, I mean … neither my brother nor my sister has any interest at all. So it didn't come from the family.

It isn't unusual that the pleasure born and experienced at the contact with wildlife, which demands to be constantly repeated, is perceived by

the naturalist's family or the world at large as a strange mania, and often enough naturalists jokingly admit that the obsessive aspect of their interest is one of the essential features of their personality. "Nutcases or enthusiasts, depending how you want to look at it! I mean there are some people whose virtually every waking moment is chasing wildlife of one sort or another. And some of us are quite rational!" Edward observes ironically. The naturalist inclination can thus develop independently of what others think. It belongs to the private realm, to that sometimes uncomfortable but endlessly satisfying part of the self.

This is why the attraction of the great outdoors sometimes even seems the rival counterpart to indoor school activities, which may then be neglected in favor of devoting oneself to natural history. "I was an outdoors boy," Robin says, specifying that he preferred to look at birds out of the window to remaining seated in a classroom. Peter Scott relates in his autobiography how he would escape from his boarding school at night to roam around the estuary of the Wash River on the eastern coast of England between Norfolk and Lincolnshire.

> We were of course entitled to be away from college on a limited number of nights during the term, but the restriction meant little, for it was not difficult to climb out of college … This, combined with a scheme by which the bedclothes on our bed were ruffled as necessary to indicate that we had slept in college when we had not, enabled us to spend as many moonlight nights down on the shore of the Wash as our consciences would allow, which, of course, was a great many more than our tutors or directors-of-studies could have approved. (Scott 1961: 83)

As Antoine Hennion writes judiciously apropos of amateurs (in general), their "taste is not the consequence (automatic or educated) of the actual chosen object, nor is it a purely social disposition projected on the object or a simple pretext for a ritual or collective interaction, it is a reflexive and instrumentalized mechanism for trying out our sensations" (2004: 10). Whether it's an amazing bird bursting into view or wildflowers whose color and delicate, varied shapes catch the eye in the course of repeated outings, it is thanks to the countryside that one comes into contact with wildlife, and in that contact an inclination is experienced and formed. This is why budding naturalists seek and find in the how and in the doing, that is, in mastering actual practices, every reason for continuing to stimulate their curiosity, and in doing so expand their attachment

in the course of experiences that accumulate inside them as they explore the English countryside.

The countryside may be a playground no larger than a handkerchief, crisscrossed repeatedly near one's home, or it can have the attractions of novelty when discovered during holidays spent under a tent, in a campervan, a vacation house, or cottage. Country roads running between tall regular hedges like vegetal walls, nature reserves and other exceptional sites, fields dotted with groves of trees, winding rivers, dome-like hills, chalk cliffs, coastal dunes—all territories alive with scurrying creatures and plants filled with life—all form a domain, a place to roam in, together with and close to the living world.

The countryside is not in this case a frame for memory, an environment, a matrix of recollections, not even a landscape, but the actual material of the experience that the child explores with his or her senses and by means of which he or she learns the copresence of other living things. No doubt this is why naturalists never describe nature as an objectifiable backdrop in itself but as a wonder that arises as one gazes on it and immerses oneself in it. As Richard Mabey, himself a naturalist, puts it, "you are not just in a habitat, you are part of a living membrane, pulsing with life, its scents and vibrations linked with your own" (2010: 13).[13] Graham calls it "a kind of mutual thing if I care about it." It is a link sustained by the back-and-forth between self—the interior—and certain natural entities—the exterior.

Humans, for their part, form a surrounding, an environment that facilitates the encounter or discourages it, yet is considered to play no part in the development of a taste or persistent interest. The accounts we are looking at say in substance that it isn't bonds like this that make the budding naturalist act or that are activated, turning him or her into a naturalist. The special connection with nature occurs of its own accord. It is somewhat as if these accounts were also describing an effort to establish an individuality for its own sake, to make room for it in the social and historical context of which it is the private, secret, and personal side, a kind of subjective counterpoint, a problematic, sometimes euphoric, sometimes mismatched, manifestation, of the self in the world.

In this connection it is impossible to say exactly what kind of imaginary commands the reference to the founding event of the first visual contact or the first steps when the inaugural bond of observer to observed

13. Mabey is known in England for his regular columns in the *BBC Wildlife Magazine*.

is established. At times the accounts suggest a kind of initiation giving rise to a new identity owing to the sensations experienced at the contact with the living. But to an even greater extent, they appear to describe a conversion or revealed election. In defining the emergence of naturalist wonder as a quality that neither tradition nor education can explain—since brothers and sisters have not been touched or transformed by the contact with fauna or flora—one is tempted to think of a secular version of the gift of grace, for which the sight of a brilliantly colored bird or a butterfly might be a sign,[14] like the capacity for naming and memorizing a large quantity of living things.[15]

Yet I have also noted that Anne, David, and Robin are reluctant to adhere completely to the type of narrative produced by people, mostly male, who pride themselves on telling their own stories, and consider that the taste for natural history cannot be a means to impart a heroic or saintly dimension to their hypersensitivity to the natural world which all claim to possess. All the more so, as this quality, though it singularizes a person, does not suffice to turn him or her into a naturalist if it is not cultivated. Indeed, it is not enough to experience the activation of an inclination comparable to a decisive cognitive or "magical" jolt: the passion needs to be cultivated, rooted, made fruitful. The narratives mention

14. In a compilation of conversion accounts made by a Baptist minister in the seventeenth century, one reads: "I was travelling to a Fair, and about the middle of a Field, 35 Miles off of London, I saw a kind of a Bug crawling across my Path, and immediately there started into my mind, did God, do you think, from before the Foundation of the World decree or Fore-appoint that this little creeping Creature and I should meet in this place at this time, or that I should come from London to meet this thus? And the Case is the same of every little thing I meet with or see now, and so of everybody else, and of everything, and at all times." (Doe 1700: 53).

15. Lucia Bergamasco (1993) studied hagiographies of Anglican saints that proliferated in England in the early modern period (sixteenth to eighteenth centuries). Interestingly, we observe that the Reformation's break with the worship of saints gave rise to a new type of literature in which biographies of saints, both religious and secular, repeat the careers of humans who, by means of their worldly actions, bore witness to their faith and grace through their exemplary behavior. Being educated and having an extraordinary memory were part of the "gifts" that served as proof of their election, usually coinciding with the transition from adolescence to adulthood.

this too. The experience must be repeated. Becoming a naturalist is a long, laborious process that requires seriousness, discipline, and method, and depends consequently as much on the perseverance, patience, and humility of the individual as on its emergence in a social soil that favors the apprenticeship of nature provided by the exemplary English context.

Educating the Senses

Learning how to watch wildlife … Memories abound in descriptions of the first stirrings of the naturalist apprenticeship. They frequently combine a delight in chasing, locating, and recognizing with the pleasure of collecting specimens or traces of life that are brought home to be observed, given names, and organized as the future naturalist sees fit. These activities are often conveyed as a means of underlining the difference from other children who were content with the boundless joys of running through fields, riding a bicycle, climbing trees, foraging in thickets, or crawling under bushes with a stick or a plastic gun.

Elizabeth, aged ten at the time, remembers spending hours during a vacation in Dordogne (France) sketching grasshoppers being devoured under her captivated gaze. "Discovering in the meadows, by the house," she recalls, "blue-winged grasshoppers and the wasp spider, which eats grasshoppers. I was fascinated by the relationship between them, trying to work out the way their mouth pieces worked. I did lots of drawings, from memory, of what I'd seen when I was in the field."

David roamed around the countryside, but not just for his own sake, either: "I still remember very vividly watching a woodpecker in the woods through my little plastic telescope. It was exciting, wasn't it? To see these things because nobody else was looking at them really, probably didn't even know they are here."

As for Liz, she remembers "bird-nesting," an activity that many children in Britain still practiced in the 1950s:[16] "As country children we

16. Collecting eggs became popular in England in the 1880s in the context of studying bird reproduction (oology). The Museum of Natural History in London has a collection of nearly 610,000 eggs. A number of works testify to this activity which became fashionable in the twentieth century, among them R. Kearton's *Birds' Nests, Eggs and Egg-Collecting,* which was reprinted more than ten times between 1890 and 1913. In 1954 Britain's Protection of Birds Act forbade collecting the eggs of a certain number of

would know where, we would go round the hedges and find thrushes' eggs, and the blackbirds' eggs … It was a very important part of growing up, for boys especially; boys in particular would make collections of bird eggs. I remember that great excitement at finding birds' nests. I liked to know that those birds were there. It was like a secret to find."

Hunting for nests was widespread in France as well. Daniel Fabre speaks of it as "a major custom" that gave rise to "a special mastery of the natural world and … simultaneously initiated a transformation of the person at a time when behaving 'like a boy' was the expected thing" (Fabre 1986: 17). The initiatory tone of the youthful passion for birds as related in nineteenth- and twentieth-century literary biographies is echoed in the accounts of Robin and David, who remember playing hooky as an act outside of or in opposition to social rules. But these accounts also differ in one interesting way, for the "bird-nesting" that English boys, and to a lesser degree girls, practiced was neither rebuked by schoolmasters nor viewed by parents as a dangerous "running wild" that had to be curtailed, controlled, or forbidden altogether. Young British bird-nesters were even strongly encouraged to indulge their passion, but on the model of naturalist observation or collecting rather than imagining one is hunting or poaching.

In a sense, natural history undertook to discipline this custom and, in the process, transform it. To borrow Fabre's terms, it built a bridge between two spheres, bird childhoods (*enfance-oiseaux*) and book childhoods (*enfance-livres*) (Fabre 1986: 32). It is enough, to be convinced of this, to glance through John Moor's book, *The Boys' Country Book* (1955) written for children in the country, inspired by and updating J.L. William's *The Every Boy's Book: A Compendium of All the Sports and Recreations of Youth*, published in 1841.[17] Among the pastimes mentioned in the chapter "Looking at Things" one finds in random order: following and recognizing animal tracks, collecting fossils and minerals, searching for archaeological traces on the ground and in the landscape, observing farm animals and breeding techniques, watching and identifying birds, taming wildlife (hedgehogs, caterpillars, reptiles, amphibians), catching aquatic creatures in ponds and tidal pools, collecting insects, picking plants, making an herbarium, and so forth.

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avian species and in 1981 the British Wildlife and Countryside Act made the possession and manipulation of nests and eggs illegal for all wild birds.

17. Many publishers borrowed this type of literature throughout the twentieth century.

The common point of all these activities is that they require attention and experience, curiosity and method, an art of noticing and noting things down, in order "to see more in one hour in the countryside than you and I in a week" (Moor 1955: 146). Moor's book confers an educational dimension to the qualities accorded to observation in the form of practical advice, for example the recommendation to collect specimens in order to recognize and to name at the same time:

> So you see that if you were to start making an indiscriminate collection even of British insects you would soon grow tired of the impossible task. You would need a vast library to identify your captures and a large museum to store them in! Therefore, it is best to confine your attention to one of the orders which happens specially to interest you. Most boys start with butterflies and moths; there are many good reasons for this. All insects, and indeed all living things, are beautiful if you know how to look at them: even the cockroach and the toad! But the beauty of butterflies and moths strikes your eye immediately; you don't need a microscope or a knowledge of anatomy to reveal it. (Moor 1955: 283)

Or the reader may be urged to spot and follow the tracks made by mammals on the ground. With experience one is able to "read" nature, whose language one has learned to decipher, whose signs remain mute to those who have not learned to take an interest in them.

> You must be able to tell the difference between the tracks of a rabbit and those of a fox; and you must be able to decide from looking at the footmarks which direction the animal is going in and whether it was running or walking … As you gain more experience you will be able to find out what the animal was doing: it may have been merely going to a new feeding ground, or it may have been stopping to drink in a stream or pool … All these things you will be able to read in Nature's book if you use your eyes and ears, and study the known behavior of the creatures you are interested in. (Moor 1955: 244)

It is thus a question of encouraging boys, and more generally all children, to keep busy making appropriate use of their time in activities conducive to forming character. And even if girls are traditionally expected to pursue artistic activities involving nature (keeping herbaria and drawing) rather than engaging in physical and intellectual activities

Figure 4. *Starting Your Own Museum*. Shirley Hughes, in Moor, *The Boys' Country Book* (1955), p. 281. (All rights reserved.)

(exploring and collecting), they too, when moved to do so, have climbed trees and memorized scientific names. Having fun while learning or learning while having fun: natural history is part of outdoor activities in keeping with the notion that time should not be wasted, that being busy is noble, instructive, healthy, beneficial to personal growth, and socially useful.

Since the second half of the nineteenth century, natural history has thus established itself as a favorite didactic tool for imparting the taste for reading and acquiring knowledge as well as for acquiring moral values (see Ritvo 1985). In keeping with the puritan struggle against sensual outpourings, described by Norbert Elias ([1939] 1994), natural history has come to be seen as a healthy occupation, as demanding as work and instrumental in preparing the mind for the highest tasks and forging a consistent, respectable individuality (see Barber 1980).

It comes as no surprise, then, that school too plays a part in shaping young naturalists. Participating in a competition for the best essay on one's favorite animal; attending a well-known school (like the Bristol Grammar School) where sometimes on Sundays a group of children are taken in a minibus to Somerset or Gloucestershire to participate in

an outing organized by the school's Natural History Society; winning a prize and receiving a natural history book or field guide; taking part in a school competition of presenting a herbarium with fifty wildflower specimens listed in the assignment; listening to an enthusiastic natural science teacher who sets up a "nature table"[18] in class and uses it to explain excitedly about the ingeniousness of evolution, the refinements of balance in the struggle for survival, variations within a same species, and so on—all of these are formative.

In his autobiography Mark Avery underlines the importance of the outings organized by his school's "field club": "When I hear talk of a grammar school education I think of A Levels, the Golden Hill rugby pitches and learning to tell bar-tailed [*Limosa lapponica*] and black-tailed godwits [*Limosa limosa*] apart at Stert Point in Bridgewater Bay" (2012: 4). Similarly, Peter Scott relates in his autobiography the decisive importance of a field trip in the context of a beginners' zoology class organized by the Marine Biological Association in Plymouth:

> To me the greater enjoyment of that first course was shore collecting at Wembury Bay. At low spring tides our party went far out on the rocky shore, each armed with a "collecting basket" which contained one large jam jar, and a number of smaller ones. As we turned over the big stones, the profusion and the diversity of the animals we found underneath was to me sheer delight. (Scott 1961: 47)

All of these events color childhood with the memory of a gradual accumulation of knowledge from different places and times of year. In this respect, school and the family environment are the privileged social spaces for giving children the opportunity to be more and more closely connected to wildlife and for reassuring children of the interest and legitimacy of their inclination. And yet—and this is an important point, upon which everyone insists—one does not become a naturalist in a classroom. As Islay Doncaster, who once taught at the Museum of Natural History in London and who espoused a distinction between academic knowledge and knowledge gained in the field, writes, no particular training is required to become a naturalist: "one can only learn by doing," adding that this empirical knowledge depends mainly on

18. Specimens set out on a classroom table as a concrete illustration for a natural science lesson.

personal qualities: a "very keen power of observation" and a "determination to study living things at first hand" (1961: 108).

Thus, proficiency is always presented as the result of experience rather than as a corpus of acquired knowledge. Yet it also requires method and discipline and above all the presence of essential artifacts such as books. As the historian David Elliston Allen stresses in *Books and Naturalists*, without books it is impossible to speak of a cognitive passion; at best one can refer to a sensorial experience: "Of all the many pursuits and studies that have the outdoors as their principal focus, natural history must surely be without rival in the extent to which it depends on books—and has always done so. Unless the different kinds of plants and animals encountered in the wild can be told apart, for preference, mentally pigeonholed with a name, the subject could not exist. Without identifying its particulars nature remains a purely sensuous experience" (2010: 1). In the end, it is by shuttling back and forth between the observed object and the source of knowledge at hand—a book, at times a relative, a teacher or friend who names and describes the thing pointed to—that the learning process takes place. As Elizabeth says:

> My dad must have learnt quite a lot of things from his relatives, because, especially when I was very young I'd ask him "What flower is that?" and he'd often know the answer. And then, when I was six or seven, a book by a clergyman called Keble Martin was published. It was the first illustrated flora, in color, of all the British wildflowers in a single volume. The whole holiday, I was in this book looking at the pages. We'd go out and I'd find some more.

In the accounts we are looking at, certain books therefore play a decisive role. This is nothing new. David Elliston Allen describes the moment when Arthur Henry Patterson (1857–1935), a naturalist in the Norfolk region, opened a copy of Edward Jesse's book *Gleanings in Natural History* at the age of eight and had what the author calls "a light-bulb moment" followed by a frenzy that led him to learn the entire book by heart (Allen 2010: 2). I have often heard, too, of a naturalist's earliest book, usually a gift or an accidental find in the school or family library, which initiates a narrow dependence on books and thus marks the moment when the family recognizes an authentic propensity in the child.

Natural history books are thus faithful companions and the very condition of the learning process. The ones that are regularly mentioned

include works devoted to local, regional, or national plants or animals, especially field guides and monographs centering on taxa, milieus, or regions. Leafed through tirelessly, they lend visibility to a host of characteristics that can then be detailed at leisure. Liz and Elizabeth remember clearly the 1965 publication of the evangelist minister W. Keble Martin's *The Concise British Flora in Colour* because, for the first time, it was a book that was portable (a single reasonably sized volume), exhaustive (it contained all the species on the national list of flowers), and illustrated in color (large plates designed for easy identification of the specimens mentioned and substituting partly for long, dry prose descriptions). Now seventy-five years old, Anne learned to identify birds before becoming interested in plants, for she had no book on flora as a child.

Their knowledge is always formed by comparing representation (both iconographic and textual) with the morphology and behavior of things seen in the wild, though no certainty or proof arises spontaneously from these comparisons.[19] Illustrated, easily handled books provide an essential iconographic and descriptive tool, then, and presumably their popularity following World War Two favored the burgeoning of numerous vocations in England.

Among the books that were of importance in childhood, the accounts also mention personal narratives written by naturalists. These are less often texts or drawings meant to build skills by comparing the reality seen with knowledge obtained from descriptive sources but rather writings of a literary nature which, more often than not, are reckoned inspiring and invite the reader to steep herself or himself in acting and seeing in a properly naturalist manner. Elizabeth, currently aged fifty, still treasures *The Country Diary of an Edwardian Lady* (1977), compiled from the nature notes that Edith Holden kept in 1905 in the course of her outings in Birmingham County.[20] This is a journal copiously illustrated in color by the author, designed for use as a pedagogical tool within the framework of the writer's teaching activities in art. It is a true diary by virtue of the chronological organization rhythmed by the succession of days and months. Here is a sample:

19. I discuss this topic in detail in chapter 5.
20. Born in 1871, Edith Holden was mainly known as an illustrator of children's books.

> *May 1.* Very windy, but bright sunshine. Walked to Yelverton and sat on the moor, Watched a delightful little black-headed wheatear (*black-headed stone-chat*)[21] "jinkin thro"; follow'd him to another patch of furze and sat down to watch. He scolded terribly and presently the hen-bird came with a beak-full of small caterpillars and began to scold too. I moved my station and sat down behind a big whin [gorse] bush a few yards farther away; but the hen-bird followed after swallowing her collection of grubs and scolded and chattered at me for half an hour. At last she flew away but soon returned with another beak-full of caterpillars, I kept very quiet and at last had my reward. The mother bird suddenly dived down to the foot of a small gorse bush a few yards away and came up with her beak empty. I followed and discovered a cozy nest hidden away very carefully among the dry grass at the roots of the gorse with five baby stone-chats in it, nearly fledged … (1977: 65)
>
> *June 1st*. Fine, bright day.
>
> *June 2nd*. Went down to a little stream, running into the Walkham. Found a great bed of Yellow Irises in blossom and among them a very large species of Mimulus with yellow and orange flowers. (1977: 87)

The book on her knees, one hand on the cover or leafing through the pages, Elizabeth loves the smell of the old paper, delights in her finger brushing the outline of petals and leaves, the stem of plants reproduced on the printed page. She feels moved by the transformation into images of the "morphologic and chromatic prodigality" of plant forms, to borrow Bertrand Prévost's expression (Prévost 2009: 3). Holden's book is also a way for Elizabeth to connect with feelings associated with her past reading, to again admire representations from nature patiently drawn with an artistic hand and eye, to be enthralled by the precision of the observations and descriptive notes, and to picture the young author lying on the ground closely inspecting a flower.

This diary is, for her, a moving evocation of what it means to be and to act as a naturalist. The genre accepts a discreet "I," which is manifested implicitly as a narrator-and-actor: telling what one has done and describing what one has seen, reproducing the experience of an observation and that which has presented itself to one's gaze. The diarist's pen informs the reader about the potential in the locations that have been

21. A small passerine (*Saxicola rubicola*). The color of the head indicates that this is a male.

visited and the possibilities offered by an inventive use of the senses. The diary logs the process of learning to see and explore the space perceived by the body in action, a body unveiling the density of the natural world. Thus, its value lies less in it being a scientific contribution, which can moreover be criticized, than in its ability to evoke and describe.[22] The book functions as a sort of improved optical instrument allowing one to view nature through the eyes of the observer while communicating the satisfaction of enjoying the observation in full (and knowledgeably). Elizabeth delights in the active connection that writing creates in this respect, drawing her "into seeing nature through the eyes of a born naturalist."

By virtue of the connection it establishes between calendar dates, meteorological and seasonal fluctuations affecting living things, and the succession of moments that occur in a life, the diary can be an effective form for recreating the naturalist experience. In his book *A Naturalist's Eye* (2008), Philip Radford chooses to organize his material chronologically (from summer 1988 to winter 2007) in a series of chapters that could be regarded as plant and animal scenes observed during country outings: frays between song thrush and fieldfare (*Turdus pilares*) in the snow; spawning frogs; fungi; a harvest mouse's nest; a headless dragonfly; fall rutting season; a Christmas Day walk; strange amphibians and pairs of birds; helping a hibernating dormouse; a grass snake swallowing a frog, and so forth.[23]

This account by an observer who in his remembrances gives his field notes a retrospective literary flavor combines a distinctive personal style with impersonal observations, shifting without any particular warning from the register of first-person experience written in the past to that of the objectification of reality written in the present, accompanied by digressions and references to other sources of knowledge. The use of "I" is limited but recurrent, thus establishing an active link between the presence of the observing narrator and the description of the natural world.

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22. Holden's mention of a very large mimulus with yellow and orange flowers clearly shows that she is more concerned with describing its colors than with identifying it precisely (the genus *Mimulus* comprises approximately 150 species of flowering plants).
23. Radford, born in Somerset in 1920, worked in the Royal Army Medical Corps before becoming a GP in Gloucestershire.

> In late October, on a really cold day, I identified thirty-seven species of birds on a walk by the river Otter. One intriguing find was that of a small spherical nest built of woven, dried grass in a hedge bush. This was a used nest of the minute Harvest Mouse, with a side entrance: I was delighted to see it. Then, near a pond, a song comprising a loud jumble of notes was heard from the base of the hedge, associated with a rapid mouse-like movement of a small bird which disappeared in the undergrowth. This can only have been a male Cetti's Warbler [*Cettia cetti*], which sings for much of the year and has extended its range in Southern England in recent years. This was an exciting identification, only possible because of the bird's unexpected song; the abrupt notes were melodious even if the sequence was without a recognizable pattern. (Radford 2008: 22)

Here the "I" is not equivalent to the methodological undertaking of the scientist who gives thought to constructing his learning in the way that Lotte Mulligan observed in Robert Hooke's journal.[24] By objectifying his activity—self-scrutiny—Hooke embraced in his day the question of epistemology and objectivity. In doing so, he was not undertaking a critique of the illusion of neutrality in a language that seeks to describe facts as an objective reality, without regarding the text as a subjective production. The paradoxical character of describing is freely accepted by naturalists, for in asserting the status of being eye-witnesses they pay little attention to the "I" as a form of scientific authority or as a rampart against the charge that they are being partial or are bending facts. Contemporary accounts are conceived less as investigative modalities than as examples of what it means to be and to act as a naturalist and to experience the impact on nature and self at being examined through a naturalist's eyes. Natural history lends itself to being read as an empirical practice by documenting in one stroke the world and the human observer who grasps it.

If these writings have proved inspirational to my interlocutors, it is because they are related in a particularly interesting way to the

24. Regarding the diary of the seventeenth-century scientist Robert Hooke, Mulligan writes, "The diary should be read, I propose, not as an 'after hours' incidental activity removed from his professional and intellectual life; both its form and its content suggest that he chose to record a self that was as subject to scientific scrutiny as the rest of nature and that he thought that such a record could be applied to producing, in the end, a fully objective 'history' with himself as a datum" (1996: 312).

literary genre of the diary. When Edith Holden or, more recently, Philip Radford construct their narratives, they are drawing on this tradition and extending it. The naturalist diary develops the idea of improving oneself by keeping a journal of one's experiences as an almost stenographic and self-disciplined record of how one uses one's time.[25] Simultaneously, the reader gets the idea that a minor external event—hearing the song of a Cetti's warbler or discovering a nest with five baby wheatears inside it—is noteworthy and meaningful, for "it is actually part of what one has experienced and thought," part of the observer's interiority (Pachet 2001: 46). It is mainly in this that the evocative power of such texts lies.

But unlike most private journals, this form of self-scrutiny does not involve revealing deep emotions. Nor is it an occasion for indulging in introspection or for setting out more general considerations, as in the nature writing genre.[26] In effect, the author contents himself or herself with registering excitement, satisfaction, or surprise. The important thing is to record scrupulously the details of a natural calendar experienced through a narrative form combining human and natural temporality. Nature is consequently not mobilized to echo or to reflect the narrator's feelings and emotions after the fashion of the Romantics, or to offer a setting or pretext for amplifying a personal experience.

Readers and budding naturalists understand this well. These books play a part in the process of learning to view the natural world correctly for its own sake. They are merely unobtrusive witnesses, engaged in a process that is at once a way of knowing and a way of feeling, to use the terms of Lorraine Daston and Elizabeth Lunbeck, who describe the naturalist activity as a compulsory and disciplined form of sensory experience (Daston and Lunbeck 2011). The emotions sparked by the beauty or strangeness of beings (which set one in motion) are cultivated,

25. Pierre Pachet (2001) demonstrates that the private journal is a secular descendant of spiritual self-examinations which became popular in Protestant countries from the end of the eighteenth century on.

26. This literary genre, born in the United States, combines descriptions of wilderness with autobiographical considerations. Its origin is commonly thought to lie in Henry David Thoreau's *Walden; or, Life in the Woods*, first published in 1854, which undertakes a description of nature observed season after season from the cabin where the author lived for two years, combined with a gradual introspection punctuated with philosophic, moral, and political reflections fit to living in the world.

as are precision and method (which set one to work), for, according to a circular logic, allure and competence reinforce each other mutually. As Jacques Roux, Florian Charvolin, and Aurélie Dumain write: "The experience of a rapport with the object is sustained by the experience of knowing it. This amplifies and ripens that relationship in a reciprocity of coalescence" (2013: 3). The more I know the more I experience and the more I experience the more I know. This is the tangled web of cognitive passion.

There are hardly any types of knowledge as closely connected to books and school or family while being solidly rooted in a practical and self-taught learning conducted for one's own benefit, from a very early age on in the countryside and independently of institutions. From this standpoint England offers a remarkable environment. There are many opportunities for amateur knowledge to burgeon and progress openly, far from the crushing influence of institutional learning and theory, so well established in France. This empirical culture consists in a relationship with nature that is intimately bound up with self-construction. Hence the astounding number of personal or autobiographical writings that seek to relate and illuminate the power and density of this connection. Connecting with nature as a naturalist gives one a special place in the world, one that is shared too, owing to the very fact that it exists—an educated and erudite place as well as an emotional and sensorial hyper-connectivity to the natural world.

This personal connection to living things is the central arch around which everything seems to be built; it is at once a deep personal commitment and a type of awareness that accepts the fact that knowledge cannot be produced independently of the self (and of subjectivity) while at the same time being strictly dependent on the knowledge consigned to books. Amateur naturalists navigate and are steeped in nomenclature and taxonomy; they are more like do-it-yourselfers than creators, more like craftsmen than theorists. It is in this that their capacity for wonder in the world's incredible diversity lies. Their knowledge is cultivated not because it is deemed useful for its potential application to a particular area of expertise or for contributing to a spectacular scientific breakthrough, but because it cultivates the persons themselves. The Protestant terrain so favorable to the work ethic and to individual vocations, not to mention Christianizing the private sphere and secular life, leads thus to a strange parting of ways: not to Max Weber's (2003) cumulative history of intangible knowledge placed in the service of modern technical and

economic progress, but to a cumulative history of the constant attention to living beings in relation to which individuals correspond and with which they bond under the imperious (and mysterious) urge of getting to know them always better.

Figure 5. *The Window*. Peter Scott. (All rights reserved.)

CHAPTER 3

A Window on Existence

Amateur. The English use the same term as the French, but less often, at least in everyday discourse. In English the word corresponds to a category that is in fact somewhat tricky. It refers to differences in status that date back to the Victorian era (1837–1900) in connection with changes in the status of scholars, some of whom then became known as scientific professionals. The term can also designate (even if this is less true than in France), persons who love a field but are not practicing within it or those who pride themselves on their activity without having acquired actual expertise, in other words training dispensed and thus legitimized by an institution of learning.

Yet, as we have seen, the naturalist's pursuit has more to do with a vocation and personal identity than with position. At the same time, it is not regarded as a dilettantish activity carried out without competence. Moreover, it is perceived as part of an astonishingly enduring continuity with the first naturalists who practiced their know-how in the countryside without necessarily benefiting from university training or belonging to a research institution.

There are good reasons for being wary of the term, yet when naturalists speak of their activity's importance in their life and place in the world, they never stop alluding to it, while never actually pronouncing the word. *Amateur*. Perhaps we need to go back to its earliest definition, derived from the Latin *amator*, "he or she who loves." Above all, we ought to take a close look at the kinds of significance attributed to the

marginal areas where naturalists have chosen to operate. For theirs is indeed a choice, not a second-best option; it is an essential and chosen sideline that is liberating, but not without impact on their social standing nor narrowly dependent on the economy of their knowledge.

Completeness

Although the naturalist inclination appears self-evident in childhood accounts, this is hardly the case when the individual attains adulthood. Some people mention practical problems that prevented them from yielding to the "great appeal" of nature, causing them to resist, contain, or postpone it until the day when, freed from family and professional obligations, the attraction is reignited like a dormant fire, an ember blown into life. Others never really distanced themselves from it and chose to treat natural history as a permanent companion to which they devote the necessary time, either by literally leading a double life with conviction and a huge expenditure of energy or by making a career in a professional area not unrelated to natural history. The naturalist passion always follows the windings of time past and time remaining or time stolen to satisfy one's inclination. Its expression isn't linear; its intensity is variable. The activity follows a discontinuous path, usually subject to compromise, as the portion a person devotes to it is seen as a sideline, an adjunct, a supplement to existence that, looking back, reveals what one has made of one's life.

Most of my interlocutors did not wish to pursue, or ever imagine they would pursue, higher education related to the cognitive and rural pleasures of their childhood and adolescence. David, age seventy-five, is one of them. Seated at a small kitchen table opposite a large window that gives onto the garden of a comfortable cottage pleasantly situated in a setting of carefully planted flowers and trees, he mentioned this topic in connection with the bird portion of his life, interrupting our conversation from time to time whenever a bird or the house cat crossed his field of vision.

At the age of eleven David was enrolled in grammar school. He later attended the Imperial College at the University of London and was long obliged to set aside his juvenile interest in birds. "Nothing to do with birds at all for a long time. There was so much to do at grammar school and, after leaving that, at university. I wanted to do electronics." Many years later, after enlisting in the Royal Air Force and being assigned to radar

maintenance, he renewed his studies of the avian world.[1] Everything began again in the 1960s when he was posted to the Locking RAF base near Weston-super-Mare in Somerset and became friends with a colleague who introduced him to bird ringing. After a relatively unproductive two-year stint in Germany—"I didn't actually do any bird watching, much to my regret, and I didn't even have any binoculars"—he returned to England and devoted his free time to bird ringing, learning how to do it at the Chew Valley Ringing Station, still in the company of his colleague and friend.[2] Further transfers took him to Norfolk and another idle period—"I could not get hold of any other bird people over there"— and Lincolnshire, where he joined a group of bird ringers. This was followed by a succession of long sojourns abroad (Hong Kong, Penang, Kuching, Singapore), where he marveled at finding "an abundance of birds everywhere we went, new birds and brilliant birds, brightly colored," having the same vivid hues as the chaffinch that had made such an impression on him in his youth. He then joined the Royal Air Force Ornithological Society, of which he is still an active member. In fact, he and his wife never miss the Society's yearly outings in the course of which, in the company of former colleagues, they trek and inventory birds for ten days or so, usually outside England, from Scotland to Cyprus, Spain, Sweden, Wales, and Australia.

The abundance or scarcity of birds, the exceptional and novel or ordinary presence of local fauna, the presence or absence of equally interested teammates, the existence or nonexistence of organized groups he could join, the length or brevity of periods of inactivity, the possibility of going on regular hikes with close family members,[3] all explain the variations in intensity of a naturalist commitment. The presence of birds in

1. David's family numbered several professional military men, including both his paternal and maternal uncles and a first cousin.
2. The Chew Valley Ringing Station was established in 1963. Approximately 450 birds are captured there annually by a team of ten or so particularly active members, some of them trainees under the supervision of experienced ringers, in view of obtaining in turn the certificate giving them the right to handle birds and ring them. The data relating to the tracking of birds are collected by a charity organization with a scientific purpose, the British Trust for Ornithology, which experienced naturalists prefer to its counterpart, the Royal Society for the Protection of Birds, more open to the public at large.
3. David and his wife, Anne, have no children but share a distinct taste for naturalist field trips.

David's life is like a wave, rising and falling but always building anew, and his existence is like a double-faced adhesive tape, which sticks on opposite sides but cannot be separated.

It was the air force that finally gave David an opportunity to renew his acquaintance with birds. "Birdwatching was a sort of pastime for soldiers," he observed. He followed this with a few explanations, such as the conjuncture of being away from home and the intervals of free time that are particularly abundant in the armed services and can be enjoyed as best one sees fit. And he added, imagining the situation of sailors by analogy with his own,

> In the navy they go everywhere on a ship. They can thus see wonderful albatrosses and plenty of gulls when in the right place. Then they anchor in ports where they have a few days of shore leave, and they are usually on a coast where there are generally lots of birds. I would assume therefore that one or two of them got interested in them and founded a society.

Something of a pastime for soldiers … The connection between natural history and the military has a long, well-documented history (see MacKenzie 1990). Indeed, the British Empire's expansion in the nineteenth century offered adventurous spirits—soldiers, administrators, physicians—plenty of scope to explore and study the new natural worlds placed under their surveillance. In *The British Cyclopaedia of Natural History,* one reads apropos of the observations relating to the platypus that they were reported by the honorable Lieutenant Maul, who "in common with very many officers both of the British army and the British navy, placed on foreign stations, is now cultivating natural history with equal assiduity and success" (Partington 1837: 196).

But interestingly enough, David, like his contemporaries who look at history in this early twenty-first century, says nothing about the connections that existed up to World War Two between studies of fauna and flora and the administration of British colonies—the empire's economy having in fact to adapt to the economy of nature (Anker 2001: 36)—not to mention the recent methods of tracking animals developed from Cold War techniques of military surveillance (see Benson 2010). David's references are rooted in a different narrative, not in a social participation in an endeavor to conquer and rule a territory, but precisely in the opposite: the prospect of a getaway having no other purpose than knowing and admiring.

Indeed, David's social space is defined by the postwar creation of birdwatching societies.[4] Like many others, David is anxious to maintain a strong distinction between his professional life and his naturalist activities. For unlike radar, birds interest him only inasmuch as he has known how to make them interesting by means of "making himself and things available," to borrow Antoine Hennion's expression (2009). For David, professional activity does not suffice to make a man happy, even though he may be good at it and it suits him. This being the case, having free time is a privilege—hence my interlocutors' frequent allusions to the upper classes, the military, and the clergy, all of whom are thought to have excelled in natural history thanks to the fact that they were possessed of leisure time which they were able to use as they saw fit. David had this privilege.

Naturalist activities are lodged in a precious space-time of existence that one devotes to oneself, cultivates privately, and values, for it is the portion that a person owes to no one else, at least in the imaginary of self-construction. In this respect they resemble what is thought of as a "hobby," a term that is occasionally employed, for it too pertains to a part of existence that is shaped in opposition to the temporal model of a work-time that determines one's position in society and is established as a value in and of itself in industrialized societies. Yet it is also a sound value for measuring a person's qualities and force of character: it is sometimes said of a lazy person that he or she surely has no hobby. I have often been taken aback when, in the course of informal encounters and preliminary chats, I have been asked what my hobbies (rather than my profession) are, to which I would mumble "reading," only to realize quickly that my answer met with disappointment, for reading requires no particular proficiency.

While David is a figure of equilibrium, having made room in his life for birds without letting them become its center, others were certainly obliged to negotiate around their naturalist identity. They are easily recognized. They always seem to be short of time, and accounts of their life are not without stress, always attributed to a daily schedule they cannot organize as freely as they would like. James is one of these people. "Unfortunately, life got too busy, what with one thing or another. I never

4. The first birdwatching society in the British armed forces, the Royal Navy Bird Watching Society, was established in 1946. Another was founded in the Royal Air Force in 1965, and a third in 1967, the Army Ornithological Society.

had enough time, it is just a question of spending a sufficient amount of time."

James is fifty-five. He was born in Iraq (his father was an officer in the Royal Air Force) and spent his childhood in Hampshire (he lost his parents twenty years ago but has relatives who still live there). He and his wife have been residing in Somerset for about twenty years; their two sons are currently completing their higher education, one in history at Oxford, the other in economics also at the university. I last spent some time with James in July 2014. He was roaming through a meadow in the Shapwick Nature Reserve with a butterfly net, looking for bumblebees (*Bombus* genus). We had traipsed for three hours. It was a Thursday, James's preferred day of the week, "Shapwick day." After being dismissed from his job as an IT technician and finding part-time work, he gained two days a week in addition to his weekends and occasionally even nights, and was able to explore as he pleased in the marshy countryside of the Somerset Levels and Moors. His children had grown, too. When they were adolescents his repeated efforts to get them to join his excursions proved vain. Here is what he says about those years, in a reserved and serious tone of voice:

> When they were young, about five or six, I used to take them when I was doing my wading and wildlife counts at Stert Point. That was okay, especially in the autumn, because they could eat blackberries. I think the last time I took them was when they were about nine. And then a couple of years later they decided they didn't want to come at all. We started doing other things like going fishing. Yes, I had to stop birdwatching for a bit.

James would not have been averse to organizing his professional life in order to be closer to the fauna he never tired of observing; on the contrary, his encounters with wildlife always stimulated him. He never regards his naturalist activity as a pastime (literally a manner of passing one's time), but as a possible direction in life which he was unable, or did not have the luck, to respond and give consistency to. Once he had enough time, he engaged in it with determination and delight. In response to an e-mail I sent him announcing my coming in June 2015, he took the trouble to detail his schedule from the moment I left.

It was always difficult to find a time for a meeting, as James's numerous activities were carefully written down and organized in his appointment diary and it was impossible to shift or cancel them. Our conversations

were usually held as we walked; they were peripatetic affairs interrupted by capturing bumblebees, taking notes, counting birds—intervals of speech between actions. They resembled the account of James's life, constantly broken off, anticipating better moments, and marked by "the frequently difficult relationship … between individuality and the practical unfolding of an existence, between self and its inclusion in reality, the vicissitudes of everyday life, failures, and unrealized dreams," in the words of Jean-Philippe Miraux (2007: 10).

Thus, when James engages in identifying bumblebees and organizing his days with all the seriousness of a professional, he is also busily restructuring his own existence. He has distanced himself from birds to become a bumblebee man. And he is not alone. I encountered other bird specialists who frequently had switched to insects (usually dragonflies, sometimes butterflies) on retiring. James explains this as follows: bumblebees give him more scope than birds. They are less well known, less studied, and are now considered essential in characterizing the richness and health of natural environments. The heads of nature reserves today view them as incomparable indicators of the quality of meadows. Taking an interest in bumblebees is like slipping into a social niche that has some of the characteristics of a biological niche—a small world of secret, unassuming insects, yet important from the ecological standpoint and in which one can become an expert without facing much competition; one can be a locally known authority. Accordingly, James turned to a new category of living things at the time his life was taking a new turn. He would like to be paid for his expertise and find a way to earn a living or at least to supplement his income in conservation. He doesn't dream of acquiring a professional status because he knows he could never have one, as he does not have a PhD and is too old, but he would like to pursue his naturalist activity as though it were a career. He aspires to play a part in the small world of local naturalists and engage more deeply and intensely in the observation of bumblebees so that in the end he could say of himself: "I am a happy man" (to echo Peter Scott 1967). James does indeed embody what Robert A. Stebbins calls "serious leisure":

> A smaller number of jobs and a substantially reduced number of work hours are in store for many employees in the postindustrial society. Whether or not their jobs ever provided such things, they will increasingly be searching the world of leisure for ways to express their abilities, fulfill their potential, and identify themselves as unique

> human beings … [Types of serious leisure] are contrasted throughout with unserious or casual leisure, on the one hand, and work, on the other. (Stebbins 1982: 251)

Tensions nevertheless do exist. "Enthusiasm and moderation do not go easily together," Peter Scott writes, commenting on his affinity for birds, "The chase was immoderate, and occupied an excessive amount of my time" (1961: 83). As if to ward off the charge that passions are unreasonable and the suggestion that they can lead one to neglect school, one's professional career, or one's family, naturalists frequently present themselves as devotees of excess. Though they sometimes deny this, usually they declare it jocularly or take pride in being excessive, for this is also a way of asserting originality at the risk (a small one in England!) of passing for an eccentric more absorbed in the parallel lives of other creatures than in human affairs. Yet the suspicion lingers on.[5] I have sometimes heard it said that persons who pursue their passion too intensely suffer from not being entirely fulfilled by their professional or family life. In his book on the social history of birdwatching, Stephen Moss mentions George Montagu, the author of the first ornithological dictionary in 1802. Unhappy in his married life and frustrated at not being able to devote enough time to his passion for birds in addition to his military duties, the latter ended by leaving the army as a result of a tumultuous extramarital affair. "The army's loss was now ornithology's gain," Moss remarks (2004: 17). Amateur activities are like a tumultuous love affair, liable to alter the course of a life! But mainly the amateur's skill and seriousness are proof of a personal success that, even if it is sometimes misunderstood by others and involves a certain cost, is worth experiencing.

The issue of negotiated time, whether modulated, stolen, or won, is thus a serious matter involving a person's inner being. Whether in order to find fulfillment, when the professional work is deemed satisfactory, or to compensate for something missing in life, as is the case with James, in

5. "It is said that the love of natural history lies at the root of the ineptitude of many of our politicians … As for Francis Hemming, who unquestionably knew more about butterfly nomenclature than anyone before or since, he made an inconceivable mess of non-intervention in the Spanish Civil War," writes Miriam Rothschild in her introduction to Michael Salmon's book on butterfly collectors (Rothschild 2000: 15).

all events it is a question of becoming fully a person. But this also supposes that their full existence had not hitherto been invested.

But things get more complicated and more clear when an amateur naturalist states that he or she is also an expert in the thing they love. "Actually, I am a bit of both, amateur and professional," says one. Such is the case of certain botanists I met during field trips organized by the local Somerset Rare Plants Group. Liz, fifty-five years old, is not a trained botanist. After enrolling for three years in an art school to learn weaving techniques and spending roughly fifteen years raising her two children, she used the knowledge of botany she had picked up over the years relatively late in life. When her divorce became final, she in fact went to work as a botany consultant under contract to various institutions, like Natural England. She sometimes searched for the right words to describe her naturalist identity:

> I was I suppose a professional insofar as I was using my botany in my work with Natural England, although we were called ecologists. I am not a trained ecologist; I have picked up my ecology on the way, as it were. I've been taught by my plants. I have learnt from my plants by going out in the countryside and learning their names; learning which habitat they come from; learning what they were related to; which buttercup it is; you might have five buttercups but I know what one it is and I know what the differences are. So I would call myself a field botanist, somebody that recognizes stuff in the wild, rather than a scientific botanist. I quite like being called an ecologist but sometimes I felt a bit like I wasn't a real ecologist.

A self-taught botanist who learned in the field, Liz is not a scientist but is professional in the sense that she is paid. Her naturalist activity is not measured in terms of passion-filled free time. Her winding path did not lead her to situate her activity on this or that slope of her life, but on a more indefinite and at the same time more demanding divide between amateur and professional and between two manners of exercising knowledge, one paid, the other not.

This divide can take a different form when, for example, the person has the advantage of a university training related to natural history. Such is Simon's case. After graduating from secondary school where he took A-levels in botany, zoology, and geography, he attended the University of Sheffield and earned a degree in Natural Environmental Science with Landscape Studies, since, not having sufficient proficiency in chemistry

and mathematics for an A-level, he wasn't able to follow a specialized program in botany.

Between school and university, Simon worked at the Institute of Terrestrial Ecology in Monks Wood, where he sorted insect samples as part of a team studying the effects of cutting and grazing management on grassland invertebrate fauna. After university, he compiled floral and other inventories on the Pembrokeshire coast. "They wanted a description of what was there. I had two years on that site, just really getting to know the area and it was a wonderful experience. There was limestone, grassland, woodlands, sand dunes, cliff tops, sea bird colonies on the cliffs, freshwater lakes, it was just an absolutely idyllic place." There followed seven years in Scotland working for the Nature Conservancy Council, then eighteen months as a field surveyor in Northern Ireland, before four years in Peterborough as a botanist for English Nature's "Field Unit." He finally settled in Somerset in 1991, since when he has worked as a survey and monitoring officer for Natural England. He presents himself as a "professional botanist specializing in vascular plants."

Like Liz, though more obviously and in a more sustained manner, Simon has joined a professional world, that of large institutions dedicated to the conservation of nature, yet he doesn't describe himself as a scientist or an ecologist as he does not hold a PhD or work in an academic research center. Moreover, the type of knowledge he needs professionally is the same as the one he requires in the field, which he would not dream of giving up. Though he is able to extend his naturalist activities to other fields, and even to use them to reinforce the knowledge he draws on professionally (and, more unexpectedly, does not rely entirely on what he taught himself in the field), he nevertheless regards the latter knowledge as unique. At all times it occupies a space-time in his existence that he clings to—his own private time—along with its attributes, principally autonomy, individual freedom, and equality among the members of the group. For that matter, whether people like this become professional botanists or professional ornithologists, biologists, or ecologists, all believe that naturalist knowledge is invaluable to them because it is free of economic constraints, professional dictates, and statutory considerations. The project of a natural life that needs to be experienced at all costs is a recipe for a successful life, one that is rhythmed, remembered, and experienced as time goes by. As Graham says, "All my life I've done this, I've endeavored to identify everything I could." It is in this way that one becomes fully human.

Emancipation

The "amateur" category is thus a welcoming one. It represents an area of practice and knowledge that might engage soldiers as well as high school teachers, computer technicians, professional botanists or zoologists, unemployed persons, women who have stopped working at the birth of their children, university graduates, people who have never attended a university, scientists in academic circles, shopkeepers, and industrialists. One doesn't often come across an activity that transcends social divisions like this. The amateurs themselves emphasize the sociologically diverse aspect of their groups. They do so by insisting on the fact that, as they gather around a common interest in the course of naturalist outings or meetings, the issue of social or professional origins is neither relevant nor an obstacle to participation. Liz, for that matter, was hard put to tell me what were the professions of the sixty or so members of the Somerset Rare Plants Group she belongs to. She and her fellow members considered such questions beside the point, for in the field of botany plants are all one talks about, or almost.

Nevertheless, sociological differences are not always ignored, but when they are mentioned, the speaker tends to stress that they have been overcome or reconfigured by naturalist activities. Like Robin and James, Liz is quick to remind the listener that, thanks to their skill and contribution to natural history, some amateurs have gained social recognition among their peers despite the fact that their level of education, work, and background would seem to condemn them to remaining invisible at the bottom of the social hierarchy. For example, Doug Woods is widely known in Somerset for his contribution to the knowledge of small rodents of the Gliridae family (various species of dormice and so forth). Yet he was a butcher. Liz was acquainted with him:

> He was an extraordinary guy, actually. He was a butcher by profession, and was particularly interested in mammals. When he retired, he specialized in the field of dormouse conservation. He is widely revered. Again, another amateur. No scientific training at all but a brilliant field naturalist.

The same could be said for the twin brothers, Paul and Ian Green, who in 1997 with Geraldine Crouch brought out a book owned by most of the Somerset botanists, *The Atlas Flora of Somerset*. They, for their part, were dairy hands. Since the publication of this guide Paul has led

botanical tours in Greece, Portugal, the Canary Islands, and Andalusia for the Greentours organization ("Natural History Holidays"). Liz continues:

> Two boys, two young men in their twenties, identical twins, a very strange pair who were not terribly educated but very, very knowledgeable about wild plants, wild flowers. They went all over Somerset, and they were milkmen. So they got up really early in the morning, two, three o'clock, did their milk rounds. In the afternoon, they would bring back in their car records of plants they had identified in the countryside.

The knowledge gained in the field and through books, as well as on one's own, can bring prestige to an individual, at least among peers. Although natural history does not lead to the most prized university degrees or to the sort of paid job that members of the upper classes wouldn't decline, it is nevertheless an area that is not without a certain social aura and may even lead to a form of social mobility, as is the case for Doug Woods, Paul and Ian Green, Liz, and Simon.

Natural history offers a good opportunity for outlining a different view of social hierarchies. The naturalist mindset is often described as a sociological dodge, owing either to the recognition of a skill (for example, the "widely revered" naturalist butcher, as Liz puts it) independent of education (private schooling or possessing certain university degrees that remain strong indications of belonging to the upper classes in England), or owing to fieldwork as a mode of knowing and treasuring that has brought together both illustrious figures and total strangers in a sphere of empirical knowledge within eclectic peer groups. And though they may regard their naturalist vocation as having its own luster and distinction owing to its prestigious history, they also enjoy embodying a form of opposition, the resistance of having acquired a skill on their own rather than through social belonging or advantageous connections, as was the case for most Victorian naturalists. As W.P. Westell stressed already at the start of the twentieth century, "efficiency isn't a birthright, but an education. This world is our legacy. Our portion is only bounded by our own ability and zeal" (1918: 11).

Other kinds of distinction can consequently come into play. These are not totally alien to the values by which personal success is usually measured, such as an individual's more or less knowledgeable character, but they differentiate themselves in that each person, in regard to

time and the contingencies of existence, may legitimately justify his or her naturalist commitment, whatever its degree, and even take pride in leading an exemplary double life. There are traces in history of this kind of emancipation from determination of one's self and the assignment of roles and positions within the social structure, in particular in the history of women, who were excluded from learned naturalist circles in the Victorian era. Jim Endersby has shown that in the nineteenth century botany emerged as a professional science, from which it was generally agreed that women ought to be excluded. Moreover, women were cautioned against learning Latin and not to be knowledgeable about, for example, the anatomy of plants identified by their sexual organs (Endersby 2010). At the time the only societies to accept women were the Botanical Society and the Horticultural Society of London. Marian Sarah Ridley (1846–1912), the first woman to be elected a member of the Royal Microscopical Society, though without the right to participate in meetings or to vote, published a guide for identifying ferns in 1881 and was the author of two articles on mosses in *The Scottish Naturalist*. She is remembered for her determined actions in favor of integrating women into learned societies. She became a full member of the Linnean Society of London in 1908, after some fifteen women had been allowed to join the society following to a change in its royal charter.

It was thus at the very time when the category of amateurs was gaining ground that persons with no claim to a scientific status were joining learned societies and contributing to natural history—a natural history itself then in the making. The names of subspecies and local varieties have not ceased to proliferate since the early twentieth century, as have the fauna and flora listed among the species found in English parishes and counties. All of this was occurring at the time when the glamorous, young, late-nineteenth-century sciences of ecology and biology were being embodied by new scientists like T.H. Huxley—who said of himself, "I am afraid there is little of the genuine naturalist in me. I never collected anything, and species work was always a burden to me" (Matthews 2005: 30). Clearly, Huxley and his fellow scientists intended to consign systematics, natural history, and field work to the faltering world of old gentlemen.

Yet far from faltering, this old world continued to gain consistency, not in the heart of research institutions but elsewhere—and together with volunteer groups—which is one of the specificities of the English context. The post-war success of the famous "New Naturalists" series of books, born in 1945 at the instigation of W.A.R. Collins, is one example.

According to David Elliston Allen, Collins had "a personal fondness for country life that spilled over into natural history" (2010: 426). These books written by expert naturalists or by professional scientists bear witness to the efforts made in Britain after World War Two "to bridge the gap between popular natural history and professional reviews" (Marren 2005: 11).[6] They reflect both the involvement of English scientific ecology in nature conservation (since the 1930s, with a notable acceleration from the '70s on) and the need of scientists to collaborate with amateurs, the only experts when it comes to identifying species and the only possessors of a unique knowledge all too often brushed aside in research and teaching institutions, where the focus is on biology, genetics, biochemistry, or ecology.

The authors of the "New Naturalists" series comprise mainly persons born between 1940 and 1950 who, thanks to their training and field work, did not turn their back on natural history. Ian Newton, for example, pursued doctoral and postdoctoral studies in ornithology on the *Fringillidae*, a family in the order of Passeriformes. For twenty-seven years, he studied the nesting habits of Eurasian sparrowhawks (*Accipiter nisus*) in the south of Scotland, making a significant contribution to the knowledge of birds of prey at the same time that he was involved in various organizations, as director of the avian biology department at the Monks Wood research center or as president of the British Ornithologists' Union and of the British Ecological Society. Another name that comes to mind is that of Michael Charles Faraday Proctor, a specialist in plant ecology and botany, especially Bryophytes,[7] a teacher and researcher at the University of Exeter who wrote about pollination and contributed to *British Plant Communities*, a standard reference work in five volumes. As Peter Marren says regarding the authors in the series:

6. As Marren stresses, "Nature was the perfect antidote to war memories" and the nation as a whole seemed to dream of butterflies. In 1945, the first title in the series, Edmund Brisco Ford's *Butterflies*, went rapidly out of print and was reprinted several times, attaining the figure of 70,000 copies sold. Currently, the series numbers almost 150 titles. There is even an association of collectors of these books, The New Naturalists Collectors Club.

7. A group of nonvascular plants, which represent the first stages of vegetational evolution on land, which includes mosses, liverworts, and hornworts.

> It is clear that natural history meant a great deal to these people. In many cases, it lay at the root of things, whether they became professional biologists or remained as gifted amateurs. They were "new" naturalists in the 1940s sense of embracing the recent advances of science to illuminate the workings of nature; but in another sense their approach was rather old-fashioned. Their contributions to science, though considerable, were almost entirely non technological. Nearly all of these authors were first and foremost masters of field study, based on observation and simple experiment. They were not so much interested in data sets and theoretical modeling as in the relationship and behavior of living wild animals and plants, or with the shaping of the scenery. (Marren 2005: 151)

Ephraim Chambers's *Cyclopaedia,* a "universal dictionary of the arts and sciences," published in 1728, distinguishes between different types of knowledge. Natural history belongs to the "natural and scientific" sphere in contrast to the "artificial and technical" domain. A further distinction is made between sense knowledge and rational knowledge. Sense knowledge consists in the "external knowledge of objects or phenomena, called physiology or natural history," including meteorology, minerology, hydrology, zoology, and phytology. Rational knowledge, on the other hand, concerns "the perception of the intrinsic character of sense objects" (either physics or the natural philosophy concerned with the properties or potential of things, or ontology and pneumatology, which edify abstract or metaphysical theories, or mathematics and their quantitative theories). These distinctions can be said still to be valid, although natural history was regarded at the time as a science like others, not yet having undergone the marginalization in comparison with the experimental and laboratory sciences that it was to know in the course of the twentieth century.

Naturalist activity is thus also a kind of scientific escape by virtue of its outdoors practices, modes of apprenticeship, and epistemology. Because it focuses on events rather than on the laws governing living things, on observing living manifestations rather than experimentation, natural history in effect offers a unique space for intellectual and scientific activity, removed from the model of the professional scientist enamored with theoretical novelty. As Stéphane Van Damme stresses apropos of the three types of "scientificity" that Lorraine Daston distinguishes (empiricism, objectivity, quantification), empiricism rests on trusting individuals and the variety of cases observed rather than reproducing experiments

by impartial and replaceable individuals as in the moral economy of objectivity (Van Damme 2014: 85).

This is why natural history offers an ongoing space of resistance. Because naturalists have in common the pursuit of a time-consuming activity to which they devote themselves with seriousness, conviction, and a vast expenditure of energy outside their university laboratory, bank, church, business, or farm, they belong to the naturalist pantheon, recapturing the inquiring spirit of the old naturalists. The main thing is that they are all committed to the field—whatever their class, gender, profession, or level of education—in a mode open to everyone by virtue of a particular attention to the diversity of the forms and behaviors of the living. This is an experience that deeply engages the observer, one that includes a relationship of empathy with the natural world (which the rational disciplines have excluded) (see Charvolin, Micoud, and Nyhart 2007). For this reason, the "founding fathers of naturalism" to whom amateurs attribute the roots of their tradition are not so much those held up by the history of science—for example, Charles Darwin and Alexander von Humboldt, whose works contributed to the emergence of the science of ecology at the turn of the twentieth century. The naturalists who are remembered, such as Gilbert White, all guided by their curiosity for empirical findings, have left us works that testify to the singular capacity of their knowledge to produce both learning and sense experience, scientific rationality and feeling.

"Amateurs are people who seek to know because they love, unlike scientists who want to know without any need to love or anything that leads to love," Robin declares. This may be one of the reasons for natural history's appealing resistance to the social and epistemological barriers inherited from the nineteenth century. But had amateurs been the contemporaries of naturalists before the emergence of amateur science, wouldn't they have been regarded quite simply as scholars too? And isn't that in fact what they are? Scientists? Dualism has done its work and has made it possible simultaneously and somewhat paradoxically to create the contemporary alternative of the type of knowledge acquisition we are looking at, though in novel forms that individuals have seized upon and testify to.

One cannot help being struck by the longevity and vitality of natural history in England, which are owed to the singularity of its epistemology, the considerable dedication of amateurs, and the numerous bridges that have developed around nature between science and society, with a

notable acceleration after World War Two. The persistence of references to a type of knowledge peculiar to early naturalists that amateurs are both heirs and successors to is remarkable. What might have fallen into the dusty and relatively denigrated limbo of old-fashioned erudition, as in France, manifests itself in England as a prestigious continuity and especially as a refusal to let natural history be marginalized or looked upon as a throwback.

The naturalist's activities exist in a liminal space that is fully alive because they take part in constructing a complete self without involving the totality of one's life; because they allow one to redefine degrees of distinction on the basis of personal merit and a shared affinity without gain being their reason or purpose; because they don't exclude but, on the contrary, help to contribute to knowledge in spite of the social divisions and hierarchies they help weaken and circumvent. These activities are thus much more than a pastime. They are also a way of finding a place in the world, one that is neither assigned nor at the core of the workings of modern society, nor motivated by a need to preserve or elevate a quality of life, nor caught up in a web of ordinary rivalry and competition, nor subjected to any of the strictures of social structure. The naturalist's freedom is not a flight from family but a social activity that produces bonds instead of accepting them as acquired or undergone.

Nonetheless, naturalist activities are not conceived as a way of life, still less as an attempt to lead an alternative lifestyle in a society from which one hopes to remove oneself or that one contests and means to reconfigure on new bases. Though they structure and play a decisive role for individuals, they don't in any way alter the fullness of their relationship to the world, in professional or family terms. They are combined with what exists; they accommodate it and are invariably the expression of a compromise that is at once worthy of respect and creative of a fuller identity and, simultaneously, of social recognition. Yet they have the beauty and power of a space-time that resists the order of things and is consistently deployed on the fascinating margins of the world of the living to which a person is also and above all wedded.

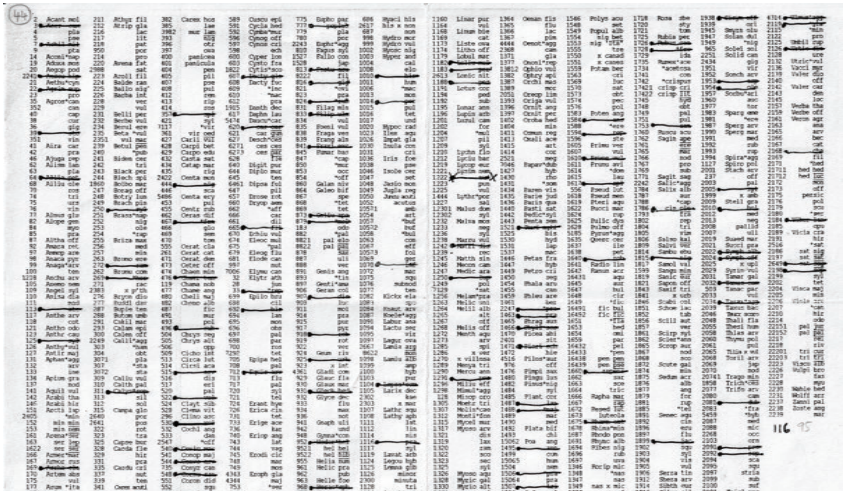

Figure 6. *Recording Card*. Courtesy of the Somerset Rare Plants Group.

CHAPTER 4

Assembling

While the act of observing other existences partly organizes the observer's own existence, the manner of existing of those other beings is integral to the person's way of observing and noting. As Lorraine Daston puts it, observation fills time as much as it creates it (2011: 9). Accompanying Liz on her botanic explorations, we glimpse an intertwining of the time of the exploratory quest that structures an observer's daily and seasonal life with the time of nature itself and its fluctuations which have to be unraveled and learned. No less remarkable is the act of systematically noting the species encountered. A substantial portion of a naturalist's life consists in recording the names of species, keeping track of what has been seen in situ, in the form of "records," as they are aptly called, which the observer endeavors to fill out and collect with determination and dedication.

One sometimes reads or hears that keeping systematic records of things observed partakes of the very English sense of infallibility,[1] and even of a kind of compulsive habit of *spotting*, particularly well known in the train world in England owing to the curious practice of recording

1. Edith Sitwell writes that she believes eccentricity is a peculiar trait of the English due to their bizarre yet satisfying sentiment of infallibility. See Sitwell 1971.

the identification numbers of locomotives the "spotter" has seen going past in the course of his or her life.[2]

Yet to regard lists as an end in themselves would be an error, for they're the very condition of the production of a cumulative and communicable knowledge. Recording species is a starting point at the exact intersection of the time of the investigation and the time of the living, whose manner of existence naturalists seek to reconstruct, not as isolated observers scattered in time and space, but as a group setting itself up as a knowing subject. It is therefore necessary to enter the world of recording in order to understand how it structures a relationship to knowledge that involves individuals profoundly, inasmuch as it is also a relationship to a territory, to time, and to others; and at the same time to grasp how it is shaped by living creatures themselves.

Microcosm

Liz does not like to waste her time. Yet, for her, time spent observing plants is never wasted. To those who might be inclined to view it as a futile, fruitless occupation justified solely by the gratification of the senses, Liz has counterarguments buttressed by her diary and field notes. Her way of devoting time to botany is conscientious, in every respect the opposite of the idea of an impulsive, spontaneous pleasure, for the order imposed by the vegetal rhythm of plants and the project of observing them and noting down their presence suffers no dilettantism and sets its own cadence.

Liz usually keeps her field notebook within reach, either in her pocket, her backpack, a desk drawer, or in the glove compartment of her car. She never goes without it; for those who regard wildlife as a terrain for observation, it can offer itself to the eye at any moment. Consequently, a notebook and pen can suddenly be needed on a park bench, on one's knees in the course of a car trip, on a tree stump on the occasion of a country ramble, or on one's forearm during a field outing for making an inventory. The field, if this term designates the empirical practice of collecting data in situ, has no spatial or temporal limits. It can spring into

2. In England the term "anorak" is used derogatively for persons who pursue a hobby obsessively, especially with regard to listing events of the "train-spotting" type. In this connection, see Carter 2008. Carter criticizes this pathological interpretation of the trainspotters' activity.

view at any moment of the day and in any spot without a special time or place being exclusively devoted to it. In this respect, naturalist observation is a mode of attention rather than, strictly speaking, an activity: a more or less intense, more or less floating, form of perceptual vigilance depending on when and where the observation is carried out, though invariably triggered by a visual and/or aural contact with the observed.

The easily carried field notebooks with cardboard covers and elastic bands to hold them shut that Liz is particularly fond of have lined pages. Once filled, they are placed next to other notebooks kept in chronological order and preserved, forming a relatively homogeneous series that testifies to observations made over the years. Written traces made on the spot are all that remain of the observed. They do not reflect the density of the scenes that Liz has witnessed, for field notes do not constitute a space of description but of the inscription and recording of details.

The succession of pages contains for the most part interminable lists of plant names with the exception of a date, a place name, or a cartographic reference like ST436468.[3] Now and then other indications of context are added, for example, temperature or brightness. Small thumbnail sketches detailing the morphology of the observed being are sometimes inserted in the middle of the handwritten pages, or rather the written text surrounds the drawing, often with annotations and arrows indicating the shape of a leaf, a pistil, a clump of roots. Also indicated are elements that call for a more detailed examination or treatment once Liz returns home: a species she is not sure about or one whose presence is unusual in certain specific locations or has been spotted at an unusually early or late time of year.

The handwriting is sometimes sloppy or shaky, written with the characters joined and difficult to decipher, at times even blurred by adventitious raindrops. Full of abbreviations, of sentences without verbs or subjects, of annotations, technical terms, signs, lists, the field notes are a way of "on-the-spot" recording and visualizing, a shapeless inventory of raw data whose only apparent order is chronological and topographic. They are a highly personal means for capturing what can only be assessed

3. The British Ordnance Survey National Grid is a reference system. Each grid is divided into squares 500 kilometers to a side, designated by a first letter, then subdivided into smaller squares 250 kilometers to a side, designated by a second letter. The six, eight, or ten digits that follow indicate further subdivisions (squares having sides of one kilometer, one hundred meters, ten meters, or even one meter).

directly under pain of not being recreated or simply recalled. They are also evidence of a manifest interest in accumulating data regarding the morphology and identification of living beings, whose signs of presence are assembled over the years and pages.

In Liz's field notes, the sequence of days and months is discontinuous. There are periods without any writing and others when the annotations are prolific, corresponding to the fallow and fecund periods of the local flora. As Sylvie Magnanon writes, "the activity of botanists is a form of homology with the object of their passion, closely tied to the kind of plants they study" (2015: 40). In contrast to those interested in mosses or lichens, autumn and winter are rather empty seasons for Liz; she is seldom in contact with the out-of-doors and with what she calls "my plants," the vascular species that are usually invisible in those periods.[4] With the exception of two or three winter outings, like those recently initiated by the more expert members of the Somerset Rare Plants Group she joined (for example, the outing of December 28, 2014, at Minehead, "to see how many species we could find in flower"), the botanic season doesn't really start until late March, with the appearance of the first springtime shoots and blossoms. It ends in mid-October with seedless plants—ferns, the *Lycopodium* species—herbaceous vegetation, grasses, plants that thrive in wetlands—*Salicornia*, *Carex*—that is to say, mostly plants that do not flower or that flower and fruit late. In the winter months associated with indoor life—"like my plants, I need to be sheltered from the winter"—Liz waits for spring, the beginning of vegetal effervescence, brighter, milder days. It is then that outings follow at a brisk pace, at least one a week: "like my plants, I come back to life."

Place names are associated with the dates of outings. Some recur regularly over the weeks and years, others are spaced over several months, still others, more infrequent, are mentioned only once. Among the locations explored regularly, Wedmore occupies a special place. Triggering memories, the field notes that Liz peruses recall particular moments of her life when she diligently explored the territory of the parish where she settled alone, just after her divorce ten or so years earlier. This investigation is also, she says, a way of rediscovering certain locations she had inspected as a child after her father, an aeronautics engineer, had decided

4. The principal characteristic of vascular plants is the fact that they have roots and tissues for conducting sap. They comprise aquatic generative plants such as ferns as well as seed-producing plants, which include flowers and conifers.

to run a small farming business near Wedmore, "because his great love was the land and the countryside."

> Nyland Hill was another place for family bike rides across the moor, when we would climb the sheep-ridged hill through scabious, plantain, quaking grass, and wild thyme. In May, the special treat would be to climb over the barbed wire fence into the woods to pick bluebells. This was a different territory, but very colorful and beautiful with the hazy blue of bluebells and the delicate pinky-white nodding heads of the wood anemones. These experiences influenced my long-established love of wild plants. When I moved to Wedmore, I decided to rediscover these places and planned a survey of the wildflowers that grow in the parish.

Revisiting places, perceiving what had changed and what had stayed the same, connecting the physical experiences of the past with those of the present, but also getting to know them differently by learning to name and locate plants, by testing the connection that tied her to particular sites, by rendering them richer and ever more complex. "Yes. It was a new beginning; living here. And getting to know where I live, very, very intimately." To be thoroughly acquainted with her new home, it was not enough to acquaint herself with its social and human aspects—the names of streets, lanes, houses, recognizing the faces of people encountered in the street, taking part in the little exchanges between neighbors, having carefully read the history of the village by Hazel Hudson,[5] strolling along the country roads and talking with the farmers who worked the surrounding land. Above all else, getting to know Wedmore involved systematically investigating its plants, beyond the walls and doors of Liz's house, beyond the little enclosed garden reached through a wooden gate, beyond the village's built-up areas.

> If you know your plants, you could read the countryside. I think that in order to do this you've got to have a sort of feeling for the countryside. A lot of people are not used to the countryside; they don't know what to do. They feel as if it's a sort of alien place and they don't

5. Hazel Hudson has written several books on the village, based on newspaper and parish archives. She traces the locality's social history by looking at the origin of place names, the history of buildings, the economic activity and destiny of local families of craftspersons, farmers, and prominent figures.

> belong. I think that most of us botanists feel we know how to use it and know how to explore it.

At the outset of her exploration program Liz used a map of the parish. She could have drawn a circle around her house, she says, but preferred to keep her observations within the parish borders so that the private space of her observations coincided with the old territorial unit organized around the church—the *parish*. "A parish is a very old thing. But we still use parishes. There are parish councils who look after it now rather than the church. But it's quite a little, little sort of unit of land to record in. So I live here." Liz gives plants a parochial character, as did, in his time, Gilbert White, the vicar of Selborne. The plants grow in Wedmore and belong to its territory, as does Liz herself who, by inventorying them, experiences and constructs her local belonging, that of a woman not entirely bred in the country but who has learned to belong to it and is "firmly rooted in the land." She has expanded her personal space to the surrounding outdoors, which she calls her "personal prospecting space," that is, a relatively restricted personal space she can prospect, get to know thoroughly, in an environment viewed as a kind of extension of her private space and even, as she says, an "extension of myself."

Liz's "corner," or, as she calls it, her local "patch," employing the expression often used by birdwatchers and sometimes other groups of specialists, designates the familiar surroundings near her home, which she returns to again and again to carry out observations. For her, the expression "patch," with its dual connotation of a piece of fabric used to repair an item of clothing and a parcel of land, is close to her visual representation of the space she explores, like a kind of postage stamp or miniature map of the territory she focuses on.

The parish limits offer a host of other advantages: they include a certain number of milieus, especially a rather marked division between plains and plateaus, and the fact that they are an administrative unit that can be described and inventoried much as is done, for example, in social history. After establishing the limits of her unit of observation, Liz used a computer map of the territory, divided into identical squares one kilometer on a side (1 square kilometer = 1 km recording unit). By studying the map carefully, she was able to identify footpaths, agricultural tracks, and roads, which would make it possible for her to explore each square. Then she went out into the countryside, map in hand, to check the accessibility of the plots she wanted to visit, the state of the roads, the

presence or absence of gates or stiles allowing her to cross private land or walk along private hedges.

> So, I would find out where all the footpaths went. If there's a little green dotted line, you can go down there even if it's across someone's private land because it's an old established path. So, by studying the map really carefully, you can get to all these places. Well, most of them. Sometimes the stiles are broken, or there's no way through. But most of them are pretty good here. So, I've been along most of these footpaths now.

Liz seldom bothers to ask owners of agricultural land for permission to walk in the fields, as her territory lies around the edges of farmed land, in borders and margins, in liminal areas worked to be contained but not meant as resources for human or animal consumption.[6] Thus Liz's territory is relatively linear, mostly restricted to hedges along country lanes—a space that has the dual characteristic of being accessible to all and being colonized by spontaneous plant species that matter mainly for cognitive and perceptual purposes. It is on the edge of fields and along hedgerows that Liz finds the largest number of wild plants, the ones that, dispersed by the wind, the rain, roots, seeds, pollen, and human and animal movement, emerge from the ground here and there, differently from one year to the next.

In this respect Liz's vegetal world is the counterpart, but in reverse, of the one that farmers work, for its plants never crop up with any certainty, whatever the locations and seasons they are likely to grow in. According to Liz, this is what distinguishes wild from domestic plants; and above all, this is what makes them interesting. What holds her attention is not the genetic, morphological, or physiological features acquired or lost as a result of prolonged interaction with humans, but their mode of existence in the wild. Domestic plants are confined to gardens and fields; wildflowers are spontaneous and subject to a logic that springs readily to the eye because they are unconstrained, especially in their modes of propagation and reproduction. Wildflowers exhibit powers of vegetal life that the plants manifest differently and inventively depending on the species, on relations between species, on aleatory conditions, and on the

6. In England the hedges of fields are officially recognized as wildlife preserves. See https://www.gov.uk/guidance/countryside-hedgerows-regulation-and-management.

milieus in which they evolve. It is therefore less the essence than the existence constantly in motion that fascinates Liz—a captivating existence because it evolves its own strategies in order to persist.

Wildlife may consequently lie without any loss of its properties on the edge of cultivated spaces, in residual areas at the foot of hedges once planted along ditches (currently in the middle of a golf course) to mark the limits of a parcel of land and to provide shade for livestock. In Liz's opinion wildlife does not belong to that exceptional spatial category symbolically construed in opposition to human spaces. In this she does not agree with Philippe Descola, who notes the recent vigor of the distinction between *écoumène* (inhabited and farmed land) and *érème* (uninhabited and unused land) that the West has perceived since the nineteenth century, when Romanticism invented *wilderness,* which continues to color "up to the present our perception of places" (Descola 2005: 88–89). Liz is no heir to Romanticism (none of the naturalists I encountered were). She observes external, autonomous natural phenomena (the manner by which plants propagate or not) in places shaped by humans. These spaces do not involve a separation between the man-made world and the environment, especially not between Liz and "her" plants (the possessive pronoun is not a mark of appropriation but the sign of a relationship in which she is wholly engaged). It is in the diffusion and emergence of wild plants, the variations in their presence or absence that the flavor of wildness resides for Liz. She tames their adventitiousness through memory and knowledge and is able to follow their microevolutions through repeated strolls in the spots she explores tirelessly and enjoys leaving wild, never seeking to appropriate or possess them, to better understand and inhabit them.

To understand and inhabit a territory the way Liz does is to experience the tension between regularity and variation made possible by accumulating identifications of species in the same spots day after day, year after year, accurately located with the help of GPS. Knowing means being able to perceive what changes relative to what does not change or changes only very little. Consequently, Liz's first outings consisted in identifying what she found, square by square. Equipped with her field notebook and recording cards, one card per square, she duly noted all the species she spotted and recognized, not the number of specimens she encountered, but specimens representing a single species, from the most common to the rarest, indicating each time the vernacular and scientific names. She has progressively learned to associate the recurring presence of a particular species with a particular location that is also a

microenvironment, so that when going somewhere, she expects to find what she has already spotted, which is in itself the best way to keep the feeling of wonder alive.

> If you're walking along the roadside, you'd know the sort of species that you would expect there. So, you're anticipating that you might find meadow foxtail or you might find arum lily. You can read in advance of being there. I suppose it's quite a complex thing in a way. You're assessing the habitat and knowing what plants could be there and then you're looking at them and then you're looking for the patterns of those leaves that might be there, or the particular color or particular type of grass. So, I'm really glad that I possess this knowledge of plants because I think I can read the world, the wild world, a lot better than I could if I didn't know my plants. And I like that feeling.

Although the area Liz investigates is linear and mentally divided into microenvironments defined by the type of plant that thrives there, she also thinks in squares, as the paths across them are subdivided into portions corresponding to the sixty-three numbered units of observation in her "patch." As she walks she thinks in terms of covering an area rather than crossing it; her path is a space for observing, representing the corresponding square.

Thus, the attention marshalled in a place is accompanied by a concern for compilation. With tenacity and an aim at exhaustivity, Liz visits her squares repeatedly in the hope of adding plants to the list of previously inventoried species, either because she has passed by them without seeing them or because they were not yet visible or present during earlier visits. "One really needs to go there several times a year. One needs to go in the spring, the summer, the end of summer because one sometimes misses things. They are not yet in flower, sometimes they are not yet showing up that year."

Addition is the operative logic here, justifying multiplying outings so that the floristic potential of each square is gradually revealed. Liz's days can be read in terms of her desire for completeness, expressed by indicating discoveries in yearly updates of a computer-generated map, with a number and an associated color for species she has already spotted. In this way she obtains multicolored geometric maps resembling pictures that show the yearly work of compilation—a record of seasonal progress—in intensely explored squares and in others yet to be investigated, those which have not yet been done and remain to do.

> How many species have I got in this? Have I covered it well enough? Are there areas that I haven't been into? I haven't been in this square, I haven't looked at ditches. So, I am aware of this all the time; it's a sort of academic thing. You never finish, because just going once is not enough. If I look at thirty-six … I've been. Well I've been three … Oh … I've been …

Liz experiences an immense satisfaction on looking at these maps. Their five colors correspond to sections quantifying the number of species she has found, in groups of fifty up to a maximum of 250, which she has so far never improved upon. These cartographic representations are at once a test of her knowledge of the number of species she is able to identify, an invaluable record of her endeavors—"I suppose it's a bit like competing with myself"—and a way for her to visualize the time she spends correlating them with the areas she has already investigated. They are also indicative of the process of accumulation that tells her what to do and what to explore next. They are a means of experiencing her territory as a domain that needs to be fully known, area after area, to record the total profusion of its vascular plant life. The areas in color represent increments of knowledge, segments of time, in her investigation of the locations and plants aggregated in the maps' display of the spatial and temporal intertwining of routine modes of knowledge and of the entities remaining to be known.

> Inventorying in a small patch means many things. That's a sort of by-product, in a way. I am in all the processes of making this map; of drawing the squares on; numbering the squares; finding the parish boundary on the map because it's just a little series of dots. I've marked all that on it. Mapping involves a lot of things: the way it's produced, what things look like. This process gives me a lot of things: not only out there, being in the countryside and knowing the plants, knowing the colors and shapes of things; but then coming back, processing it and then getting a visual representation of the entire project at the end.

The meticulously organized territory where Liz is everywhere present is thus a showcase for specimens that have been collected visually, whose purpose is to measure the density of single species in a natural area. But these maps also recreate an image of the natural world as an organized totality having a script of its own—"nature's own script," to cite the

words of Michael Dettelbach. "Maps must be interpreted in this sense, as testimonials to the power of precise observation to make Nature speak its own, universal language" (Dettelbach 1999: 481).

The maps of the spatial distribution of species that Liz also develops from her inventories are particularly interesting in this respect. They display the lines of distribution of specific species that shape a territory which she is not content to show just as a cloud of separate points, but which she defines as well by filling in lines and color areas. In effect, they represent milieus where everything is connected in privileged relations between species, for example, or phenomena of dispersion within a single species. Because the maps give Liz an overview and a concentrated picture, they have the visual capacity to provide her with a view that merely looking at her field notes or lists would not supply. While a map is not a territory, as Alfred Korzybski's famously said (1998), it nevertheless becomes a territory to explore just as the territory can become a map to read. By forcefully communicating the highly local character of the territory as seen through Liz's eyes, the map also represents a version of a landscape where more general laws of living things become manifest.

> For each species the map reveals a history. That's a tree that doesn't like the wet so it doesn't grow on the Somerset Levels, it only grows on the highland. And it is so satisfying to see that, because you can relate it to the highland here. It will follow the contours almost exactly. And that's really exciting to see how that plant can obey the rules of soils and moisture and elevation. And they are. That's its distribution.

The records are conceived in relation to a totality that has to be recreated. The "patch" is a little like "the unity in the diversity of phenomena" that Alexander von Humboldt speaks of ([1845] 2000: vol. 1, p. 38). It is the particular physiognomy of a place that Liz seeks to make her maps show, but with the sole instrument of measuring the number of species she has identified and located. Her satisfaction springs from the fact that her maps register the specific behavior of a species and its local configuration. The "patch" functions as a microcosm prompting concentration on the specific thing through which to see the plant world, not writ large but on the contrary condensed and reduced, not as an abstraction but in a concrete, measurable form. As Robert Macfarlane writes, in an article titled "Where the Wild Things Were," regarding the numerous English authors who have commented on their connection with the countryside: "the parish [is] not a perimeter, but an aperture; a space through which

the world could be seen … that we learn by scrutiny of the close-at-hand."[7] Consequently there is no point in scrutinizing vast spaces, for, provided one knows how to probe its extreme density, the world lies in a hedge or a ditch.

Density is fashioned in a repetition that favors memorization through impregnation; it also resides in the actual act of observation, which requires an infinitely slow approach punctuated by moments of stillness when the observer's attention is focused on vegetal patterns—the slender veins of a particular leaf, the way it is attached to the stem, its dentated or rounded shape, its shade of green—often studied through a magnifying glass suspended from the neck. As Liz puts it, "You're actually very focused when you're doing that. Your mind can't go off in different directions. You can't think of other things. It's like a meditation, in some way. In a funny sort of way: because you're very much thinking about one thing and concentrating on it."

Botanical observation thus combines two types of temporality: an attention to details which calls for deconstructing a small element in a short, concentrated, yet paradoxically extended time; and repetition that demands to be recorded and have its rhythms established. A strong analogy is created between scrupulously recording the moments of observation, which functions as a kind of log, and the actual observations, which reflect the fluctuations of the living and the modalities of seeing. The "patch" is thus the surest means, for it is the most stable one, to produce a measure of time—time spent, time counted, time experienced—in a condensed form. It gives particular saliency to the interconnection between temporalities created by recording and observation. Moreover, the computerized cartography of the "patch"—in other words, its "manner of arriving on the page"—literally causes an object to emerge, one that has the astonishing property of unfolding two universes: small, instantly synthesized observations that reveal Liz's personal microcosm, and the diversity of species and their locations synthesized in a sample of nature and demonstrating the vegetal macrocosm of certain ecological laws.

Naturalists are like Tim Ingold's walker who learns as he walks (Ingold 2007). As Pierre Macherey (2014) stresses, the walker is mobile and traces a line that is not defined by having a beginning or an end, but through journeying without being able to disentangle whatever pertains to action from whatever pertains to perception. With naturalists this

7. Robert Macfarlane is a British writer known for his books on landscape, nature, and places. The quote is from *The Guardian,* July 30, 2005.

journeying occurs within the continuum of days that flesh out the extended time of their life. Knowledge is thus anchored to the intersection of three narratives: the story of their observations, that of their everyday life, and that of the natural world. In this sense Liz's space-time is somewhat like the "weather trees" that Simon, another botanist, is fond of filling in. Each day the leaves of a tree are colored with various hues corresponding to the weather (rainy, sunny, foggy), so that by the end of the year a complete tree emerges from a drawing displaying a portion of an individual's life and the life of nature associated with the rather mad project of recording their fluctuations, in order to make their history speak.

Widening the Lens

When most of the squares on the map produced by inventorying species begin to turn red, a tension becomes apparent. On the one hand, there is the desire to complete the missing portion of the inventory. The investigation can be pursued further so as to achieve greater accuracy and spot new things: "The job is never finished. You can continue forever, for your whole life. I know really elderly people that just can't stop. They love it because they're always finding something new; or they're completing their square; or they're adding to the greater map; they're getting more and more records together." On the other hand, the stock of observations already made—even though they are potentially never complete and are dependent on the progress of knowledge—limits the prospect of encountering new plants and the hope of extending one's contribution to knowledge. Liz explains it as follows:

> I would have liked to have got all the squares red and then I would have felt that I'd really done it pretty well. But even at that stage I felt that I'd spent enough time on this. I need to go into another area now. Well, I just feel that it's concentrating too much on a small area, because some other areas of Somerset we don't go into at all. And it's much better to get some records from other parts rather than go into these squares time and time again, because in a way you're repeating.

It thus became necessary to extend the area under observation, driven by a logic of the same nature as the ones applied on the scale of the "patch"—increasing the possibility of comparing, compiling, and bringing the singular into focus—but this time by putting Liz into a more

immediate contact with other botanists, for now it is a matter of gathering information about a regional space as a group. Her relationship to space and time was significantly altered. Instead of compiling an inventory based on quantity and personal involvement focusing on an immediate section of the territory, there is now a broader approach to recording involving the circulation of information within a group as well as a more obvious relation to the long term of a natural history that they seek to compose collectively.

Somerset County became the reference area for all the members of the Somerset Rare Plants Group, of which Liz was one of the leading members together with Helena, Steve, and Simon, who carry out or have carried out a professional activity related to botany.[8] In the course of the group's weekly outings, which take place almost every Saturday from late March to mid-October, a botanic geography of about thirty sites was gradually drawn up. These are ecologically diverse (wooded areas, wetlands, shore tracts) and were chosen to fill rarely inventoried cartographic spaces or to visit previously investigated areas to learn what species remained, or were new, what had vanished or migrated to a different location, in the light of earlier records.

The record—what (the name of the species), where (the precise spot where it was observed), when (the date and the time of the observation), and by whom (the name of the observer)—is the minimal, primal unit of naturalist registering. It is written in all field notes in the form of lists or on printed green recording cards containing the names of the species, which are checked off after having been identified. These data are then transmitted to the heads of the local and regional clubs, and centralized on computerized databases. Archives (or past records), some of them over a hundred years old, are carefully preserved, too, in the form of field notes and recording cards. Thus, the circulation and accumulation of everyone's lists results in a relevant collective investigation, corresponding to the wider area of the records by all the groups with which individual members are affiliated.

The practice of compiling lists in field notebooks is therefore like making rough drafts for a matrix of the interconnections that naturalists establish between their diverse successive observations. Something

8. The group comprised sixty-three members in 2011, including some thirty persons who attended its meetings and botanical outings regularly. Among the latter, twenty-one were sixty or older, and fourteen were in their forties.

like a second stage is necessary for the scattered notes and sketches to come together, imparting a shape and visibility to a consistent body of knowledge that others can understand. This requires a type of formalization other than field notes, known as "inventories." Knowledge springs mainly from comparing the lists of species contained in different field notes. Individual observations widely separated in space can be added together to create a regional inventory compiled by a group.

Nevertheless, the circulation of data is a complex affair seen from the standpoint of its distribution. Thanks to computerization, the circulation of information within groups and the organizations they belong to has accelerated considerably since the 1980s. Naturalists are in fact generally affiliated with several groups or learned societies, creating what Liz refers to as "redundancies" between the multiple inventories produced here and there. Local groups sometimes send their computerized records to other organizations, as is the case with the Somerset Rare Plants Group, which contributes to the database of the Somerset Environmental Records Centre,[9] as well to that of an older learned society, the Botanical Society of Britain and Ireland, which participates in drawing up national and countywide atlases showing the distribution of plant species.

The circulation of information gives form to the groups of amateurs. This has always been the case; however, computerization and the creation of databases, while it is favorable for individual contributions—on numerous websites it is now possible to enter personal records, resulting in considerably increasing their number[10]—can also cement collectives, as is the case with the Rare Plants Group. But it is also true that once compiled in databases, the information can be difficult to use. Paper archives containing old records that have not been computerized, like the lists, reports, and newsletters put out by learned societies, are still read

9. Founded in 1986 at the behest of the Somerset Wildlife Trust and the Somerset County Council, its database serves several purposes, including that of publicly sharing information relating to the state of biodiversity useful to research institutions and conservation projects. Another, more controversial aim involves making builders and developers pay for this information by getting them to obtain a permit for transforming a site, sometimes on condition that they compensate for the loss in biodiversity occasioned by their project.

10. As one of the members of the Somerset Environmental Records Centre relates, "When I began twenty years ago we had 3,500 species records. We now have 1,200,000."

assiduously. It is owing to these writings that knowledge is truly shared among naturalists and it is because of them that inventories become meaningful on the basis of mutual knowledge.

In point of fact, certain active members of the venerable Somerset Archaeological and Natural History Society draw on descriptive notes going back to 1851, published annually in volumes titled *Proceedings*. In them, for example, one finds "Natural History Reports" that list and quantify year by year the totality of the species inventoried throughout the county, grouped by taxa, such as "Additions and Corrections to the List of Somerset Beetles," "Report on Vascular Plants," "Record of Somerset Hoverflies," "Somerset Moths," and so forth. The Reports also contain pages-long notes on particular species of special interest whose presence or behavior is unusual. In such cases, collating observations is a matter of juxtaposing them on a time scale. One learns, for example, under the pen of the leading member of the Somerset Invertebrate Group, that in the course of an outing to a peat bog in the Blackdown Hills, a specimen of a large marsh grasshopper (*Stethophyma grossum*) was found that had not been seen in Somerset for over a century. The last known archived record to mention this species dates back to the end of the nineteenth century. Its rediscovery thanks to the perspicacity—or ability to recognize a creature worthy of being identified—of the naturalist lucky enough to have spotted it has sparked a renewed attention among local naturalists to the presence of grasshoppers in Somerset. Other field notes mention it during the succeeding months, testifying to the existence of a network of shared references reflecting the identification of a species observed and recorded by others before them.

In the same vein, the Somerset Archaeological and Natural History Society's website contains a note on an unusual midwinter flowering in 2012 observed by many botanists, including Simon. The latter, who is also a member of the Rare Plants Group, describes it in this way, using his own field observations in a "patch" near the town of Taunton:

> In the Taunton area our total for December was 190 species, and the first week of January produced 118. In contrast, the total in December 2010 was just 17! Quite a few summer-flowering species have continued flowering at low level right through the autumn and winter: hogweed [*Heracleum sphondylium*] and yarrow [*Achillea millefolium*], for example, are still conspicuous on many roadsides in Somerset … Added to these summer-flowering species, those normally coming into bloom in the spring are, yet again, making an unseasonably

> early appearance: in Thurlbear Wood in December, for example, early dog-violet [*Viola reichenbachiana*] was first seen in flower on the 1st, primrose on the 3rd, and spurge-laurel [*Daphne laureola*], hazel [*Corylus avellana*], and wood spurge [*Euphorbia amygdaloides*] all on the 29th—the last of these being more than ten weeks earlier than normal.

To a large extent, then, the purpose of observing or recording is to share information within an empirical community or taxonomic group. Field notes are the condition and instrument of participating in the edification of knowledge shaped with and in addition to what others have seen. In a certain respect they are compiled by several pairs of eyes. They are a puzzle piece in an ever-widening investigation. As Helena says, "the historic records allow us to access each species, how it's faring in Somerset; whether it's declined. Thus, one has to look back."

Prior to outings a number of "target species" are usually identified for each site. These species give an orientation to the proposed quest without hindering the identification of other plants likely to awaken an individual or a collective interest. The members of the Rare Plants Group generally meet in a parking lot in the early afternoon. Each participant carries a small magnifying glass that hangs around the neck, a field guide, a pocket-size notebook, and now and then the famous green recording card listing all the species likely to be found on the site. Equipped with sturdy walking shoes or boots, a rain jacket or windbreaker, the naturalists gathered by the cars do not waste much time. After greeting each other summarily, exchanging news, and listening to Helena—it is usually she who tells the group which plants to observe and which ones not to miss—the group cheerfully gets underway. Faces concentrate and lean down, eyes scrutinize the ground, few words are exchanged, and those that are spoken almost exclusively concern plants. The exploration begins immediately, sometimes even on the edges of the parking lot, on surrounding green areas, along hedges lining the country road from which a footpath branches out, or in a meadow next to a golf link.

The "outing" itself takes the form of alternately coming together and scattering, with each participant walking at his or her own rhythm, alone or in groups of two or three, crouching at times or sometimes leaning slightly forward, clustering over a plant or around the person who has spotted it. Accompanying these moments is a relatively unusual physical proximity as observation by several persons requires their heads to brush together or members to congregate as a plant is cut gingerly and held

between thumb and forefinger for other hands to examine. Sometimes this shared, fairly intense attentiveness gives rise to a moment of effervescence. The relatively tranquil and silent outing turns into an exuberant gathering. On all sides voices rise excitedly, asking "What is it?" "Is it rare?" "Oh, look, the leaf has an unusual shape!" "Are you sure?" At this point the identified plant becomes the common property of all who note down the information concerning it, a sure way of establishing its value. The greater its value, the more excited the gathering becomes, giving rise to what Helena calls a "big squeak."

> A high-pitched squeak means "Oh looook, I've found it! Oooh!" It's our shorthand between us. We squeak, so we have found something really exciting. It's quite an achievement to have found something rare that hasn't been found. That's a great treat: a great thrill, to find something that's really unusual, that hasn't been seen for many, many years.

The value of a rare species depends on the absence or infrequency of its observations or the gap between them, measured in terms of the continuum of records entered by others, or by oneself, in the same location. Rarity is indexed by the quantity, frequency, and age of always precisely located observations. That a plant may be common in the north of England by no means detracts from the exceptional character of its discovery in Somerset, especially in a particular location in Somerset. Occasionally it happens that the members of the Rare Plants Group are collectively fired up with enthusiasm for a dismally ordinary-looking plant that should not grow in a milieu considered unfavorable, or for a plant that is highly dependent on a certain type of environment not common in England. Investigating a site also means hoping to spot species with gaps in their "biography" so as to be able to continue to compile their history and participate in composing a continuous thread between discontinuous observations in space and time. This can consist in having the good fortune to observe a resurgence (a plant has not been identified in a given spot in ten years) or an unexpected occurrence, and attesting to this fact in writing. It can also come down to laying the groundwork for a future history, the first observation to be confirmed subsequently.

When the members of the Rare Plants Group visited the Cadbury Camp site for the third time, they clustered at length around a strange-looking plant that bore a strong resemblance to a specimen of selfheal (*Prunella vulgaris*) but did not possess the exact morphological features

of the species. Books, magnifying glasses, and identification aids in hand, they were undecided and discussed it for a long time before finally attributing to Ellen McD. the discovery of a hybrid plant that had never previously been reported in the region. This was no small event, as described in the Rare Plants Group's *Newsletter* in 2014.

> While scrambling over the ramparts, Ellen McD. found an unusual looking Selfheal. The general consensus within the group was that the plant was either Cut-leaved Selfheal (*Prunella laciniata*) or the hybrid. It was decided that a return visit was required to confirm the record. A second location for the plant was found on the adjacent hillside in the afternoon. In July Simon L. re-visited the site and confirmed the plant to be Hybrid Selfheal (*P. laciniata x vulgaris*). This was a new record for VC5.[11]

The rarity of a plant depends thus on the interface of a twofold continuity that has to be reassessed and constantly updated: that of a succession of botanists who have visited the same spot and consequently turned it into a location for observing certain target species, and that of its troubled life, in some cases interrupted, in others defined by a revival or even a fresh appearance made visible thanks to connected observations. In fact, the interest attached to certain plants is also a yardstick for measuring the value of individual observations. This activity links individuals to the group in a relatively solid manner, both in terms of synchronicity—connecting with others to explore a site in the present—and on a diachronic level—becoming part of a genealogy of botanists. I got an idea of this when I visited the Sharpen Moor Plot nature reserve in the company of Graham, a retired biology schoolteacher and member of the Somerset Archaeological and Natural History Society. As we walked together, he recited the names of plants and the surnames of prestigious scientists in the past who had visited the same spot. We discovered a plant with delicate, purple flowers, commonly called a skullcap (*Scutellaria lateriflora*), which the Cambridge professor Sir Arthur George Tansley had observed in the same location in 1923. Graham also mentioned on several occasions a member of the Watson Botanical

11. Hewett Cottrell Watson (1804–1881) was an English botanist remembered for having divided Britain into areas of equal size called "Vice-Counties" (VC) for the purpose of making botanical inventories. These territorial divisions are still in use.

Exchange Club, Harold Stuart Thompson, who, while looking for a certain type of sedge, found a hybrid there in 1915—apparently the first occurrence of that plant.

There are no new things unless they are validated by other persons. Similarly, there are no individual discoveries except in terms of what others have seen or not seen; only on this condition can they be considered valuable. The possible temptation of boasting an individual success is prevented by the notion that the individual merely contributes to the whole. A "squeak" can be heard and is always talked about, yet, though it can nourish a social recognition for competence, this is not in terms of competitiveness but in terms of contributing. As Liz expresses it, her work belongs to a long sequence of shared records, thanks to which she is able to add her own observations to those that already exist.

> What I sometimes do before going to a site is to get the list from the computer and mark them off in pencil, those that have already been recorded. It's extra special to go out with information that people have gathered ten, twenty years ago. That way one can really know if the square has been covered and what the place looked like.

Expertise is diversely distributed within the Rare Plants Group. During outings more knowledgeable members, like Liz, Helena, Ro, Steve, or Simon, are in charge of the recording cards and jot down the records of the other members. They are also able to gauge the value of their observations by looking at the finds in light of what they know about prior observations and the importance of the spectrum of species they are able to name and recognize. Skill is thus measured in terms of ability to contribute more or less substantially and qualitatively to the overall result. The more experienced members act as hubs for this contribution and consequently for the sociability among the group's members. It is around them that the others gather when hoping to learn something, report what they have spotted, or to confirm an identification. But this also implies that the more expert members are willing to share their knowledge if the heterogenous gathering is to cohere. This involves encouraging everyone to take notes and not to be satisfied only with the individual pleasure of recognizing a species. As Liz says, describing her activity as a group leader:

> I'm not too fond of large groups. Sometimes when you organize some of these meetings you might have twenty people. It's really too much.

> And you get into a sort of long straggle. If I'm leading it, I try to make sure that people are welcomed and included in the group so they don't just come along and trail along at the back. Because I think it's quite a nice thing to do: to be part of a group; doing a joint thing.

Helping others recognize plants is a way of building bridges between people of unequal competence who only meet on these occasions. Yet forming a body entails a certain reciprocity, and records also permit this to be materialized. The members of a group aim for this explicitly. I have frequently heard it said that some amateurs resist the discipline required to make an orderly contribution to an inventory. Indeed, some of them like to linger in the contemplation of a plant they find particularly beautiful, photographing it from every angle, while others, specialized in a given plant family, are sometimes bored by the idea of inventorying species that do not enter into their privileged, highly personal stock of plants to recognize. Still others don't feel, like Liz, the need to broaden the focus of their investigation beyond their personal "patch."

Compiling an inventory thus calls for tallying plants in full knowledge of the gaps to be filled and a familiarity with prior records if repetitions are to be avoided. Yet in order to appreciate participating in an inventory, a person must feel they are making a contribution without necessarily having past records in mind or at hand. According to Simon, this kind of alchemy exists in their small club. It stems from the fact that for the last ten years the records that Steve, Liz, or Helena have collected have subsequently been redistributed within the group so that the information is shared in the form of computerized maps that enable everyone to visualize the distribution of records by species and location. The maps are thus also a representation of a collective contribution, for behind each dot there is indeed a plant but also a person—a person pleased to be able to picture both their participation and the collaboration as a whole.

This explains why disparities of competence are regarded as differences in degree rather than in terms of a dichotomy between experts and nonexperts. This is also the reason why the group gains solidity and density the greater the equality of proficiency among its members, for their exchanges are most productive when the level of knowledge they share is the same. It is also on this microscale that the collection of raw data is organized horizontally, compiled, and archived. It sometimes happens that, on the margins of the weekly outings, three or four particularly expert members of the group get together after exchanging e-mails or

telephoning one another and undertake what they call "square bashing" for a site considered particularly rich in high-value species owing to the fact that it is rarely visited or because it could yield the discovery of an uncommon specimen.

> We call this "square bashing." It means going out with a card and seeing how many species you can get in that square: going to all the different habitats, the ditches, the road verges, the bits of woodlands, the wet bits, the dry bits. It's like light relief. If I ring up Ro and say, "Do you fancy a day square bashing?" she'd say, "Oh yes, I've been at the computer for two days." It's something we really love to do. You concentrate on it; you talk about it; you chat about it. And the best person to go out with is somebody who knows as much as you. You may not know exactly the same things. I may not know about willow herbs, they may not know about sedges, but together we can inventory the site much better.

This concentration by a handful of members on a small plot of land is based on a complicity or complementarity between the participants, which Liz often calls her "flower friends." The participants bandy about Latin names, technical terms, and keys to identification. They share the same degree of single-mindedness, the same precision in focusing their powers, which creates, for the space of a day, a social proximity that goes beyond the accumulation of equally valuable and numerous records. As Liz puts it, "They are quite good friends. I don't mean to say it's an intimate thing to do plant recording but you're quite close, in a funny sort of way. We can talk about other things as well as plants, but mainly we discuss plants."

At times these easygoing botanical affinities reach beyond the floral field. On those occasions there might also be talk, in a car, during a sandwich break or telephone conversation, or over a cup of coffee, of a son having a hard time raising a handicapped child, of activists mobilized in the struggle against the campaign to eliminate badgers, of actions undertaken by local communities for cleaning out ditches, of the discovery in old archives of an ancestor who was an amateur geologist, and so on. Nevertheless, the affinities discussed in the field are relatively specialized, for they hinge almost exclusively on botanical matters that need to be talked about or done together. Hence, too, their relative and somewhat paradoxical solidity, for the only reason or justification they require to exist and endure relates to plants.

Arrangements and Variations

This inclination for a systematic inventory of a specific location is no doubt linked to the singular mode of existence of plants which, unlike animals, are motionless on the synchronic level and in terms of the life of individual specimens, while possessing a relative mobility on the diachronic level, linked to the modes of vegetal reproduction. As the botanist Francis Hallé (1999) puts it, plants have a mode of existence that is radically different from that of other beings; they excel in mastering time rather than space. They never seem willing to die; they appear and disappear according to an annual biological rhythm, but also sometimes at longer intervals. Theirs is an alternating form of life that often develops out of sight, under ground, or as relatively fleeting, fluctuating elements, though their longevity and their shifting between locations can be traced thanks to their reappearances as complete organisms possessing a stem and leaves.

Moreover, such reappearances suggest colonies rather than individuals. This renders the task of the spatial and temporal reconstruction of their fluctuating presence particularly apt and powerful in explaining and grasping their mode of existence. Compiling reveals itself to be a methodical, programmed practice executed to the best of one's abilities, generally within a collective or institutional structure. It relies on the accuracy and standardization of the empirical methods used in drawing up an inventory in locations investigated repeatedly and intensively by a mind inclined to value an "exact and complete knowledge" of the terrain, from its commonest to its rarest species.

This approach to inventorying is analogous to what Robert E. Kohler (2006) describes as a "survey," distinguishing it from what he calls an "exploration," a more individual recording practice that brings its own itineraries and agenda to various scattered locations that are just "passed through." The latter reminds us of what English naturalists call "casual" recording, which is particularly common among birdwatchers as well as butterfly enthusiasts, whereas the inventory approach, which is also called "monitoring," is more widespread in the world of botanists.

The appeal of living things endowed with movement has to do with the greater or lesser frequency and predictability of their appearance, that is, of their sudden materialization in the observer's field of vision. This becomes all the more memorable when it has long been awaited, when the chances of it happening are slim and subject to a large number of contingencies. It is part of what Emmanuel Belin (2002) calls "promises

of surprise." A bird may be present in a certain location, but the chances of a visual contact are subject to a host of uncertainties linked to its avian mode of existence. Attesting to its presence is therefore an essentially sporadic act that takes place in the immediate present. The location does sometimes matter—birds, too, have their habitats, although many of them also migrate. But locations are rarely regarded as the home of bird groups whose local history can be traced over time, with the exception, as we shall see in chapter 6, of species studied by certain naturalists specializing in a particular species, whose practices resemble those of an ornithologist or ethologist. Generally speaking, the present existence of individual species is thus the main focus, and the chance of attesting their presence does not necessarily or primarily involve inventorying a given space.

In the first case, the unity of place makes it possible to grasp the long botanical cycle and to establish a temporal geography. In the second case, the widespread nature of the locations makes it possible to account for the variability of avian life in the present—hence a geographic temporality. Like birds themselves, "birders" tend to prefer movement, shifting from place to place, exploring like a traveler. Like plants, botanists prefer units of place, relative immobility, and an intensive mode of exploration. This distinction is not absolute: birdwatchers can also focus on extremely local sites, and be able to identify their inhabitants, the limits of their territory, the spots where they build their nests; they are also able to participate in bird counts organized by trusts. Similarly, there are botanists who are drawn to extensive exploration and botanical trips. Yet the difference in these quests reflects interesting tendencies. "Casual record" suits the avian ontology while "monitoring" seems particularly well-adapted to the manner of existing of plants. The term "sighting," widely used by birdwatchers, is quite appropriate in this respect, for there is no equivalent to "recording" among "birders" ("record" can be used at once for the act of seeing, registering, and archiving).

Still another factor is involved here, regarding the number of species that an individual can identify during his or her lifetime. Plants are more prolific than birds in terms of specific diversity. The botanical "patch" is, like its avian counterpart, depleted when no new species can be found: the former number not fewer than four hundred species on the scale of a parish while the latter comprises slightly under five hundred species for the entire British territory. With regard to plants, a local or at least regional area can suffice for a single individual, whereas birds require a vaster scale of apprehension for the list of new discoveries to

be stimulating. The size of the inventory, however, must not exceed the capacity of the observers who, faced with too vast a number of objects to investigate, might lose their taste for the quest. Indeed, too large an array defeats curiosity, as the task of accounting for the whole without being swamped or becoming an expert is rendered impossible. It is for this reason that naturalists—particularly botanists—occasionally limit their area of expertise to a specific place or category.

As a result, the social models of the investigation differ. While "monitoring" presents itself as a collective undertaking for purposes of archiving, to which each person contributes according to their capacity, the "casual record" of the "birder" partakes rather of a private adventure. Where birdwatching is concerned, each observer acts on the basis of a personal list. Alone or in a small group, the observer shares what has been observed and the interesting locations investigated. The list of the birds observed can also be published on a personal blog, a chat forum, or special website, but this sharing and circulation is often more like an effort to belong to a social group based on identifying and being acquainted with the greatest possible number of birds than a rational undertaking to gather and compile information collectively about an aspect of natural history. And if certain birdwatchers are sometimes dismissed rather cursorily and pejoratively as hopeless individualists, this is no doubt owing to that fact that, as they themselves put it, they are "into birds" and have adapted their manner of collecting to the flitting, furtive, instantaneous, individualized ethos of birds.

In this respect, the idiom of the quest varies too. The search for plants is known as a "hunt," a term used in this way exclusively in connection with botany, where one speaks of "plant hunting." Of course, the word does not refer to the pursuit of a mobile creature but to an objective—collecting—formerly used in making herbaria. In contrast, the hunting imagination would seem to apply more to the world of birdwatching, since it involves not only animals but catching them with a glimpse. In one instance we have a relation to space that creates a high degree of familiarity through repeated visits; in the other, we have spaces that are not exhaustively explored, often far from home, and that offer new visual contacts, according to the season and milieu.

James, for example, likes to spend time in the Shetland Islands in June to see flights of seabirds (shags [*Phalacrocoracidae*], penguins, guillemots, and kittiwakes [genus *Rissa*]). In July he has visited the marshy Wicken Fen nature reserve in Cambridgeshire and its vast coastal plains washed by the North Sea, attentive to the calls of cuckoos, swifts (*Apus apus*),

swallows (family of *Hirundinidae*), and bullfinches (genus *Pyrrhula*), and observed the movements of cormorants, egrets, and marsh harriers (*Circus aeruginosus*). In summer, he occasionally goes to Chew Valley Lake south of Bristol. In September, he went twice to Fair Isle, a spot well known for the passage of migratory birds, where the mysteries of migration have been studied in depth. In November, he once sat on the highest point of the escarpment overlooking the Avon Gorge not far from Bristol, in the hope of spying powerful, almost extinct, peregrine falcons (*Falco peregrinus*). "Birders" are never content with their local "patch" and are always avid to discover new species in particularly promising, generally well-known locations. As Diane Porter writes:

> Many bird watchers keep … a life list, noting each new species they discover, along with the place and the date. Birds are creatures of location, and no two locations are exactly alike. So when you travel to a part of the world that you've never been before, you can be sure you'll find birds that are new to you. Even close to where you live, a habitat you have not explored before will provide fresh birds for your life list.[12]

I have never heard of a list of plants that botanists might compile during their lives like the "life lists" of birds. I do not think that the reason for this has to do with a private interweaving of the lives of the observer and birds, as Diane Porter suggests when she writes, "After a few years, the term 'life list' takes on a new meaning, because the list becomes a chronicle not only of birds but also of one's life—travels, past homes, old friends. Adventures that the years might have erased remain alive because they are memorialized in an entry on the life list. It's only a list of names, places, and dates, but to me my life list reads like a novel." This idea doubtless reflects the greater individuality attributed to birds that allows the observer to describe an encounter with a being never before seen as an event to be remembered. And though plants too are individualized thanks to the practice of recording, it nevertheless remains true that they constitute first and foremost a landscape of vegetal communities where the pleasure of discovering a new species is always related to the familiarity of the location. As Liz says,

12. See the internet site hosted by two birdwatchers, Michael and Diane Porter, www.birdwatching.com/stories/lifelist.html.

> If I go to a country abroad where I don't know any of the species, I can't read the countryside in the same way because I can't understand it. I don't know what the plants are doing. They're not telling me that it's wet, dry, or rocky or whatever, in the same way.

In this sense, discovering an "exotic" species is not an event in itself, as a visual contact alone does not suffice. To be significant it needs to be related to a milieu, a span of time, an association with other beings—in short, to ecology. Thus, it is synchronicity and mobility that guide naturalists drawn to moving creatures, whereas what matters to naturalists attracted to the plant world are slow processes and localized shifting. The two types of naturalists don't "collect" the objects they observe in the same manner and do not mobilize the same strategies of copresence in order to learn about them; and this is partly linked to their different techniques of observation. Paradoxically, once they have reached their sites observers of mobile birds remain motionless (and silent), on the lookout from afar, sometimes in specially built blinds that allow them to watch without being seen, or behind a thicket, binoculars hanging from their neck, or, as often as not, held against the face. The distant visual encounter is a zoom from a retired position and therefore the bird is observed in detail yet wrested from its surroundings. In contrast, the botanists sticking closer to home wander about (and speak constantly), their bodies involved in the quest and in contact with plants which they approach closely, touching, smelling, sometimes even tasting them. Plants are discovered and understood while exploring a milieu.

The manners of acquiring knowledge thus vary in accordance with the forms of life involved and the way the observers organize themselves, using methods that allow them to hear and understand what they are being "told." Plants "speak" of and through a territory, birds "speak" by and of themselves. Although in both cases records bear witness to individual observations and serve as a foundation for memory, a trace and evidence of the presence of members of a species, birds "speak" mostly in the guise of memories to be treasured and shared in addition to the lists drawn up for clubs or trusts, whereas plants "speak" mainly through inventories and archives. Records are always conceived as a means of taking part individually in a project for building up collective knowledge. While the aim may merely seem to be an individual endeavor at accumulating, as is sometimes the case with birdwatchers, such people deviate from the naturalist ethos to the point of being considered outsiders. Indeed,

naturalists make a clear distinction between true "birders," whose patient and attentive observations do not disturb birds, and stressed, ultra-connected "twitchers," who receive real-time information about the presence of a rare bird in this or that location in England via the Rare Bird Alert application on their smartphone, and rush off to observe it, which invariably results in crowds surrounding the specimen in question!

The same distinction is made among French bird lovers, who abhor being taken for collectors of "visual trophies." John Liep (2001), who studied this phenomenon in Denmark, speaks of cumulative possession, which acquires social value through competitiveness and the quest for prestige. Mark V. Barrow (1998) says much the same thing when he writes that the first American birdwatchers drew up lists less to contribute to knowledge than to attest to a kind of self-realization, resulting in a camaraderie against a background of competitiveness. True enough, but what about all the authentic "birders" who compile life lists, yield from time to time to the convenience of checking off sightings, and do not hesitate to take a plane to go and see rare birds? Is this a matter of degree rather than the purpose of a search? Is it a way of forestalling suspicions of being a dilettante by blurring the frontier between scientist and amateur? As Sarah Gamaire points out, "the frontier is not as clear-cut as the discourses of birders and twitchers would suggest" (2009:57). Lists are never in fact merely props for distinction. They are always tests of the consistency and extent of individual knowledge; they are traces and materializations of a relationship to a living being one cares about, evidence of an observation and of its conversion into data, contributions to knowledge through the circulation and sharing of facts—an activity that is all the more important inasmuch as it also involves supplying information about the critical state of biodiversity, one's connection to an empirical community, and so on. Naturalist activity is not about configuring a world in which the respective position of individuals is of primary importance, for to do so would amount to losing its purpose—providing a space for contributions.

Whether individual or collective, the cumulative experience of recording the presence of animals or plants is sometimes also associated with the experience of being a collector. Records could indeed be viewed as things of paper, digits, words, just as specimens assembled in herbaria, natural history museums, or private collections could be compared to objects forming a series "in which the universe as a whole becomes visible" (Pomian 1987: 68). As Solange Pinton stresses, "it is doubtless no accident that natural things are numbered, in contrast to artifacts.

The fact is that everyone is comfortable with a classification into three kingdoms subdivided into orders, genera, species, entailing a logic that seeks to create complete series" (2000: 81). Those who practice recording indeed describe the activity of inventorying as collecting things that are counterparts of the specimens they encounter.

Yet archiving and collecting in the sense we are talking about does not amount to collecting in the usual sense. The records of naturalists no doubt lack one essential feature: they are not considered singular things valued for their own sake, they have no market value, they have no price; that is, they offer no way of appraising their exchange value (Boltanski and Esquerre 2014). From this standpoint, records are not substitutes for specimens: they attest to their presence, are information that can be made to circulate, concerning which one can boast a kind of appropriation and pride by affixing one's name, but their value is never submitted to a transaction between partners, between donors and recipients.

The act of compiling lists is above all a way of contributing to the common fund of records. And in the universe of inventories of biodiversity, records do more than merely provide a cement for a community of interest; they literally give shape to a group conceived as a nexus of contributors who bring unequal aptitudes to the task at hand. This involves a form of participation in which the individual, who plays an integral part in establishing the record (what, where, when, and by whom), is literally linked with others and takes second place to the potential connections between records, in order to write a totally democratic local and national natural history.

Records consequently entail an astonishingly ardent relationship to a territory and to others, contrary to the notion one might form of a dispassionate accumulation of quantitative data anchored in a capitalistic urge to identify as many species as possible. Only repetition, investigating the same locations (whether they be "patches," "spots," or regions), observing the same beings individually or collectively, guarantees accuracy and completeness. Thus, examined by a multitude of convergent, concentrated gazes and a mass of inscriptions attesting to its presence, the natural world offers itself to be deciphered as a profusion of scattered phenomena—the patterns of a leaf, a winding path, a type of soil, the colors of a plumage—and as a totality structured by the fluctuating presence of the living beings calling to be linked in time and space.

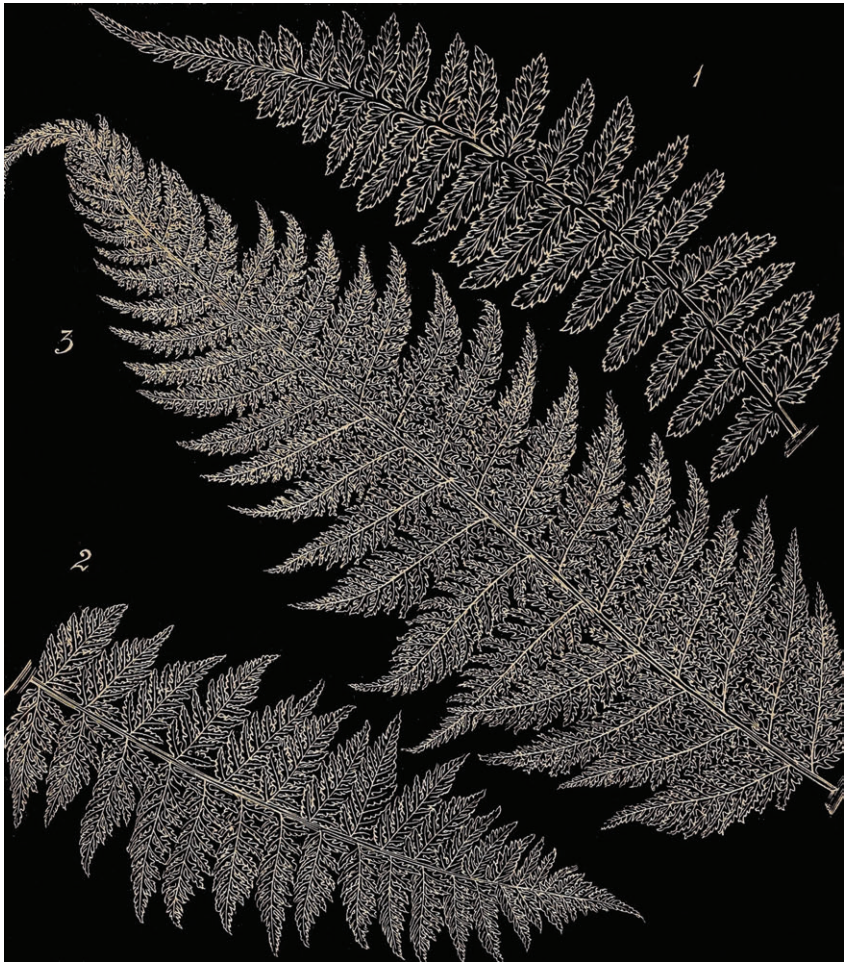

Figure 7. *Choice British Ferns*. Biodiversity Heritage Library.

CHAPTER 5

Matching

"Oh, yes! It's a … I've got it!" This exclamation, which punctuates the observations of naturalists in the field, cannot be reduced to the thrill of adding a missing species to a list in progress. It is in fact the result of a lengthy process, and a list says nothing to someone not confronted with the difficulties of identification. While the natural world can be thought of, in the naturalist episteme, as an aggregate of living things which morphology enables one to separate into particular species that are classified in categories that resemble each other and are differentiated from one another, many stumbling blocks and uncertainties go with this method. These are not, or are rarely, mentioned by the naturalists themselves, but it suffices to see the latter at work, or to try to work like them, to measure their magnitude.

Consequently, rather than view naturalists' knowledge as a standardized preestablished corpus that they handle as masters and virtuosos by calling on memory, it is more appropriate to describe the types of uncertainty and changeability that accompany identification by regarding it as a process rather than as a set of a well-established knowledge and skills. This raises the issue of relating nature as it is perceived to the tools with which naturalists recognize it. This involves the "material order of knowledge," as Françoise Waquet has titled his book (2015): in other words, ordinary skills and practices that invariably have a sensorial dimension. It involves looking at objectivization less as residing in the domain of methods and ideas and more in that of the techniques

(observation, measuring, and so forth) and tools (orality, images, printed matter, electronic means, writing, etc.) that naturalists have at their disposal for identifying and naming.

Specimens and Images

In front of Graham, a stretch of nature. In the distance he sees a row of trees and bushes forming a thick hedge of intertwining plants. We are in late spring. The branches are loaded with leaves. At the foot of the hedge, he notices small spots of color, blossoms of fairly short plants that, together, make an attractive red, white, and mauve carpet. At this distance, only the trees stand out against the sky, thanks to their height, while the other vegetal elements form a mass whose diverse composition is seen only as a range of green tones, flowers, and dense foliage. From afar, the plants we are gazing at make a silhouette against the horizon, a shape rounded in places, shaggy in others; the colors of the bark now darker, now lighter, smooth or lustrous, the foliage generally silvery gray but here and there a yellowish light green or an almost black dark green.

Graham could have contented himself with staying on the spot and taking in the vista of the natural world transformed into a landscape, but he did not. He drew nearer to the hedge and, halfway there, arrested by the clamor of birdsong, listened carefully. He paused for a moment, though he might have kept on going, paying attention only to the tangle of twittering. He shut his eyes, then opened them again and directed his gaze to the right, lifting his binoculars to try and locate a particularly melodious, sweet, flute-like whistle coming from some invisible presence hidden by the hedge's foliage. He drew closer to it, stepping slowly, until he could spot a group of small buff birds hopping agitatedly about behind the leaves, no sooner glimpsed than they flew away or hid themselves again. He then crouched in front of the carpet of flowers and took the stem of a flowering plant between his thumb and forefinger, examining it through a magnifying glass, noting the number of its petals, the position of the pistil, the symmetry of the alternating leaves. His face slightly bent over the flower, he shifted his attention to several butterflies flitting about in the vicinity; his eyes registered the flutter of their wings, the loops of their flight, the type of flower they opted for, at times waiting vainly for them to land and spread their wings so that he could catch a better glimpse of the patterns on them, their shape, their width.

There was a purpose to this walk with Graham. He had the idea that in order to study his type of knowledge, I needed first to experience physically a funnel-like visual process consisting of stepping out of the landscape in order to see that it consists of dissimilar features which need to be viewed as distinct entities by virtue of their behavior and formal characteristics. This was the elementary first step of my apprenticeship. But it rapidly got more complicated when Graham, seated on a log with a field guide in his hands, began to explain that visual skepticism was the golden rule of his practice, that is to say, a distrust of sometimes misleading appearances when trying to establish a solid agreement between the seen specimen (a perception) and the specimen that is represented and described (an ideal reference). One of the great challenges of this task, indeed, is to be able to establish coincidences between previously described, photographed, or drawn species and specimens observed or sighted in the field.

To recognize a plant, bird, or butterfly, one needs to have seen it before—an ordinary perceptual experience that enables one to think that one is dealing with the same thing. But in addition, for a naturalist, identifying and naming means that one has seen it elsewhere, not just in nature but on paper and in the form of a representation accompanied by a detailed description. Hence the crucial importance of illustrated children's books. Images are the inseparable double of living specimens. This raises the issue of the more or less successful concordance between them. And this in turn goes back precisely to the idea of the "truth to nature" that took hold from the early eighteenth century on among authors of illustrated scientific books and atlases. Without images, as Pierre-Yves Lacour writes (2015), natural history would doubtless not have emerged as a domain of specialized knowledge.[1] But to an even greater extent, as Lorraine Daston and Peter Galison have so ably shown (2007), new standards for illustrations signaled the appearance of the modern system of scientific objectivity.

For the botanist Carl Linnaeus and his contemporaries, a good illustration was a rational, generic image of a species, one that eliminated and excluded anything that was impure, fortuitous, or confused—that is, any variations or particularities—in favor of retaining only the typical

1. The publication of illustrated works, like the *Herbarium vivae eicones* by Otto Brunfels in 1530, is the first sign of the emergence of the "after nature" ideal that established itself in the eighteenth century as an epistemic virtue.

morphological features that established the uniqueness of the species on the basis of discriminatory criteria. This was the key to obtaining a perfect generic specimen on the formal level, normative and without anything missing, in order to render the criteria of its classificatory identification visible and exemplary. The purpose of the "truth to nature" approach is to reveal the type representative of all the individual members of a class, without embodying any single one of them, as Daston and Galison write.

This is still the norm for amateur botanists seeking to evaluate the quality of an illustration. The pencil stroke needs to be thin and firm in order to render the unbroken outline of the organism inside its linear envelope, without any shading to disconcert the viewer. The complete organism from root to twig must stand out clearly against the white or off-white background of the page. Delicately colored in pastel tones, the illustrations must make the discriminating features of the plant's morphology perfectly visible: its type of leaf, simple, alternate, palmate, or verticillate; their shape, elliptic, reniform, acuminate, cordate; their edges, dentate, crenulate, serrulate, sinuate, spiny; their veins, pinnate, arcuate, transverse, reticulate, radiating; the aerial stems that determine their general appearance, tree-like, bushy, herbaceous, etc. A good illustration must also include an indication of scale, and represent the different stages of the plant's growth as well as certain essential features—fruit, blossoms, roots, pistils—enlarged as under a magnifying glass. Such representations are considered more accurate than the dried specimens more or less well preserved in herbaria, where they are often displayed without their fruit and seeds.

An illustration "after nature" is therefore not the equivalent of a drawing made on site. In field notes one sometimes comes across quick sketches, but in the case of illustrations, proper drawings are too specialized a task for botanists unless they have already acquired "artistic" skills. "Artistic" is in fact the term used for excellence in the art of representing botany. Not only must the drawing be accurate and proportionate, not only must it render the whole range of the plant's details—which requires having a knack for drawing as well as possessing botanical expertise—but to be appealing the illustration must be deemed elegant, refined, and pleasing to look at. In fact, it happens quite often that old illustrations of specimens are framed and hung on interior walls.

The aesthetic value attached to illustrations again recalls the book by Daston and Galison (2007), who explain how, at the close of the nineteenth century, a system of visibility became established that aimed

to exclude any intrusion of human subjectivity into the observed reality. "Mechanical objectivity," they tell us, answered an overriding desire to eliminate all personal interventions by the artist-author by establishing methods for placing nature on the page using strict, even automatic, conventions. This was the period when mechanical recording devices such as cameras were becoming paragons of scientific objectivity, in that they were able to reveal aspects of reality that escape our perceptions, such as dissymmetry in snowflakes that engravers and draftsmen had until then rendered as having symmetrical forms.

In this regard, one cannot help being struck by the botanists' wariness of photography. In their eyes, drawing is a thousand times preferable, for it offers a more faithful image of vegetal organisms! Photography is useful only for beginners and for the most common species, they will tell you. The more often one uses representations after nature, the more one frees oneself from deceptive appearances and superficial resemblances. The more one distances oneself from the spontaneous and immediate perception of organisms, the more one becomes a confirmed naturalist. There is no need to exclude the human hand in order to objectify reality, but rather—and to an even greater extent—it is thanks to this, to the observer's manner of seeing and representing, that the naturalist gets to really know a being, to approach it as closely and exactly as possible while simultaneously experiencing an aesthetic emotion. Just as the artist is part of the representation, naturalists are part of what they observe when they seek to report it more fully. They do not belong to the ranks of those who aspire to a knowledge that retains no trace of the knower, a blank knowledge shorn of prejudices and habits of thinking, fantasies and judgments; to do so is a blind way of looking, one without assumptions, interpretation, or intelligence (Daston and Galison 2007).

The continuity with the natural history of the eighteenth century as described by historians of science is remarkable. One of the peculiarities of the empirical sciences and the practice of field work is no doubt to render possible the concept of objectivity that underlies it: the reality to be known cannot be understood outside an accepted subjective grasp by the observer, who nevertheless relinquishes none of his autonomy and exteriority. The natural specimen is thus a point of departure for drawing an ideal, generic still life, allowing a unique being to be identified. This peculiar circularity means that the drawing serves as a model for viewing reality. The observer's physical experience is consequently shaped by the representation, to such an extent that the model is perceived in the specimen and the specimen is made to coincide with the model.

A pocket magnifying glass in the field, or a binocular loupe at home, are the optical instruments the concordance is built on. They allow the observer to make out certain morphological features which otherwise would not have been visible but which a drawing seeks to bring out. In this way the observer can explore the specimen's classificatory scheme: by scrutinizing it the observer mentally reproduces the plant's outlines and ideal-typical forms. To a naturalist, "resemblance" therefore signifies that the plant can be identified, classified, and named. The illustration is neither a copy nor a portrait but rather a reference, like an optical tool, that "inculcates a manner of seeing," to cite Hanna Rose Shell (2014: 8).

Misidentifying

Identifying implies being able to refer to a stable morphological uniqueness (sameness engenders sameness). Matters become more complicated when evolution blurs the norms peculiar to a class, as happens with hybrids and local subspecies. Hence the surge of excitement that never fails to greet the encounter with such specimens. Botanists have taught me that "the different species of mint have protruding stamens, except for numerous hybrids"; that "the leaves of aquatic plants have different shapes depending on whether they grow underwater or on the surface, and depending on the speed of the current"; that "certain members of the narcissus family that disseminate outside a garden become naturalized"; or equally that "the genus *Centaurea* includes numerous occasional varieties." As Scott Atran stresses, certain species can indeed present difficulties due to overlapping morphological features, now and then combined with difficult distinctions between genus and species, as is for example the case with sister species that occupy the same ecological niche and display virtually the same phenotype (Atran 1986: 32–33).

Seasoned botanists find these microvariations especially interesting in that they put to the test the organism's uncertain or not-easy-to-establish affiliation within a specific class. Elucidating an uncertainty requires a particular level of expertise that some naturalists acquire by specializing in groups of plants that have a reputation for being confusing. Such is Libby's case. She is locally famous for her knowledge of shrubs and trees of the genus *Sorbus*, which includes a very large number of species difficult to distinguish one from another. When faced with doubt botanists turn to her for a confirmation or invalidation of their identification.

In such cases, the specialist needs to be able to examine the specimen visually, or at least he or she needs to have some of the organism's important features at hand—a branch, leaf, fruit, root, etc., which are sometimes sent by mail. Interestingly, images are of little use in such situations. In cases where strong morphological similarities are involved, adventitious or evolutionary variations due to hybridization, naturalists dispense with iconographic references and prefer to compare specimens exclusively through words (textual descriptions). In such instances they rely on identification keys, a method that consists in a series of short numbered descriptions of features pertaining to the physiognomy of the specimen. The principle here is to contrast two or more criteria that, depending on their presence or absence, direct the observer toward other technical descriptions. This no longer involves making a global, synthetic assessment of the specimen, but following a reputedly analytic method based on a decomposition of its characteristics viewed in succession.

This use of descriptions requiring a knowledge of the signification of an extensive number of technical terms is one of the characteristics of proficiency. The greater the distance between the object and the knowledge of it, the more experienced the naturalist. Yet, paradoxically, once an obscure specimen has been deciphered and analyzed at length from every angle, criterion after criterion, using textual descriptions, the naturalist can then go back to the specimen with a synthetic look and recognize it with a naked eye without needing to refer to its image or the text. Over time the distance from the object and repetition of the experience enables the naturalist to achieve an embodied knowledge thanks to which organism, model, and name are instantly brought together, as if in return distance could abolish itself.

When it comes to identification, other, more serious difficulties pertaining to the system of classification rather than to the method used or to the naturalist's perceptual skill may arise. This is one of the negative spots in the attempts to establish concordances. All naturalists agree on one point: "It's a nightmare!" For, as botanists know better than anyone, it means dealing with the new paradigm of "cladistics" or "phylogeny," as the system is termed, which research laboratories and the academic world put into circulation in the 1990s. Its objective is to replace essentialism with a method based on family relationships and the evolution of species, and to question the "fixism" of the morphological description of living beings (see Dumoulin and Ollivier 2013). The contemporary system has indeed gradually (and completely) revised the traditional classification system inherited from Linnaeus and his post-Darwinian

successors, who made it evolve around the margins by introducing relations of descent. Phylogeny is based on the criterion of the closer relationship between species forming a clade, which is an ancestor and all its descendants.[2] Classifications made on the basis of genetic and molecular analyses yield new families, resulting in profound changes in nomenclature and in taxonomic organization. As Simon Tillier writes, "in contrast to the eighteenth- and nineteenth-century principles, the current proposals for new rules have the same aim through a generalization of extendable definitions that make it possible to identify the content of taxa through the relations between the organisms that compose them, and not through the properties of the taxa and organisms" (2005: 115).

These changes in the established hierarchy—taxa are no longer represented as ranks but as a series of bifurcations that branch or dovetail inside one another—which are meant to put an end to the fixist morphological legacy of the eighteenth century, are obviously ill-suited for a thorough transformation of the mental and ontological landscape of naturalists, at least those accustomed since childhood to navigating in the Linnean system. For the time being, however, the problems facing naturalists tend to be of a practical order: whether or not one is an excellent naturalist, if the words one has learned no longer correspond to the organism or class of species, the interplay of comparisons fails miserably. Liz, somewhat exasperated, puts it this way:

> You then have to learn another name. And it can be quite problematical. So you have to keep all those different things in your head, thinking "What's the new name of that called?" And sometimes we still use the old name. On the computer the old name is usually still there until somebody does a revision of all the computer programs. Sometimes you just have to keep checking up in a new book that's come out with the new name in it. You try to look it up and you can't find it. That's because the name has changed and you weren't aware of it. And DNA fingerprinting is a big new thing in plants and there are quite a lot of plants that have changed their name; they've gone into a different group. Some people lump several species together; other people split them apart. So you've got one group of people who

2. Grouping by clades is not necessarily based on obvious or visible features like the presence of a fin which, for example, transformed into a leg among tetrapods. As for the reptile group, it was invalidated as a taxon.

> think they're all different species and other groups will say "they're just varieties." It's really a nightmare!

"And sometimes we still use the old name" … Perhaps the Linnean terms are in the process of becoming what vernacular names were to scientific taxonomy, local versions of a universal language. Generally speaking, there is a strong resistance to this trend; some people argue that naturalists are not systematicians but users of taxonomy, and it is vital that they should continue to understand one another. This is usually the case in the field, where old references are preferred to new ones. Nevertheless, the problem becomes pressing when it comes to inventories drawn up to add to databases, as their application demands standardization and the use of names everyone can agree on.

At present, then, different names and groups of taxa coexist, creating conditions for a particularly daunting confusion. It may happen that a plant, shifted to another genus owing to its genetic character, needs to be renamed, as when a homonym for it is discovered in the new genus to which it has been assigned. Such is the case, for example, with the plant known as swinegrass (*Coronopus squamatus*), which has been renamed *Lepidium coronopus*, shifting from the *Coronopus* to the *Lepidium* genus, thereby losing the mention of its scaley character (*squamatus*).

The dissonance between representation and object can thus be dysfunctional. When the model ceases to be the result of a shared grammar, the validity of the criteria by which living things are recognized, as well as the very purposes of the groups of specialists, are seriously threatened. It is the resemblance between species within the same category on the basis of visible morphological criteria that structures identification. How can this occur when the species are compared according to family relationships that cannot be apprehended by the senses? And what about hybrids and local evolutionary microvariations? Will they too continue to be accounted for when all species are contained in a system where all is a matter of filiation and a continuous transformation over time?

Regarding these issues naturalists continue to advocate the importance of being able to choose the terms best suited to the beings they name, although they do not flatly reject incorporating a scientific development that, moreover, is still not stabilized despite the efforts undertaken by PhyloCode (International Code of Phylogenetic Nomenclature) since 2000. Such is also the case among birdwatchers. In the preface to the 2015 French edition of *The Complete Guide to the Birds of Europe*, we are told that the taxonomic approach based on genetic methods has led

to a change in the status of many taxa that were up until then viewed as subspecies, resulting in the addition of twenty-four plates illustrating forty-one "new" species. Nevertheless, the authors add, "some of the changes considered in the last few years have not been retained in this edition, as we have decided to await supplementary work and a more widespread acceptance" (Svensson, Mullarney, and Zetterstrom 2015: 7).

Names and taxa can thus continue to exist in the everyday vocabulary of naturalists or be gradually modified as a result of the demands of science or under the influence of field guides, which have an important role in this respect. But, as Atran puts it, change would probably be impossible "without the capacity to give a phenomenal expression to scientific notions and if the opinion of experts were incompatible with everyday reality" (1986: 50). If we follow his argument, it seems highly improbable that the method of classifying living beings that we are referring to here should have any chance of prevailing if the organization of differences were to rest on characteristics that cannot be discerned by the senses.

Insofar as they allow for a visual identification, that is, if the distinctive criteria in the model for reference permit one to recognize the corresponding unique entity in the field, new scientific names can be adopted and so can the taxon. If the specimen cannot be identified by sight, naturalists will not give it a name even though it may have a scientific existence based on genetic criteria. If the specimen in its singularity is clearly identifiable, they will name it in English or Latin, sometimes using the updated Latin term, despite the fact that the species is not or is no longer considered to belong to a species in scientific taxonomy. In instances where the specimen belongs to a new taxon but the morphological criteria for grouping it in that taxon are not clear, the old taxon will be preferred to the new one, the latter being deemed less practical for identification. What we have, then, is a system that is still being harmonized.

Naturalists adapt. They prefer not to completely ignore the new scientific standards but allow themselves to continue calling X what is now called Y, for, when all is said and done, they are talking about the same being! Indeed, the coexistence of names is nothing new. As the birdwatcher and journalist David Turner writes,

> The process of standardizing the English language … is still going on within our lifetimes. Taking birds as an example, even during my 1980s childhood I knew experienced birders who refused to kowtow to the suggestion of the RSPB and most field guides that we

> should call a Little Grebe a Little Grebe and a dunnock a dunnock. Linguistic rebels referred to the former as a dabchick—which the RSPB disliked because it wanted the bird's family name to be reflected in its title. Some diehards even referred to the dunnock as the Hedge Sparrow—the name it was most commonly known for centuries because people thought it was indeed a sparrow. Many of these old names were far more charming than the modern equivalents. (Turner 2011: 106)

Perceptual Pitfalls

The accord that needs to be established between specimen and generic species representation is the structural principle behind the identification process. It is particularly tricky in the case of beings that do not match the model altogether, or are even at odds with it, and in all unstable instances where taxonomy and nomenclature are substantially modified. Yet, on the level of perceptual skills these nonconformities are in general highly productive. "What is this plant? I see ten petals, not five as in the drawing. They are so wide apart! Is it a *Stellaria* all the same?" "All I can see is a somewhat globular flower but the drawing shows a cluster of several small slender flowers. Yet it does look like a member of the clover family …" With its peculiarities, changes, and individual variations, the living thing resists the generic type. Differences between specimens and illustrations are indeed common. This is part of the challenge and is also what triggers the work of searching for information, making hypotheses, collecting evidence. As at the start of any inquiry, an enigma is needed to set in motion the plot leading to an investigation; for naturalists this means being confronted with facts that are uncertain and require exploring, being able to untangle them, avoiding pitfalls, and reducing discrepancies.

For identification to be possible, the specimen, image, and textual description must merge, and at same time the distance and distinction between them must be maintained. As we have seen, representations are ideal references for botanists. However, interestingly enough, birdwatchers often deem actual images to be inadequate or misleading. What is more, the identification of birds confronts them with specific difficulties linked to the fact that the specimens are not held in the hand, as in the time when birds were drawn from nature using their preserved bodies (bird skins) as models. In the field, establishing a connection between

an illustration and a furtive being flitting about in its environment, or between a birdsong and its sonogram (the visual record of a sound recording), does indeed involve a whole set of ruses and techniques if the birdwatcher is not to lose sight of the bird, since the birdwatcher cannot rely on carefully examining its morphological features as a botanist does when seeking to name a plant.

The points of visual and textual interface between the observer and the organism are in fact hotly debated in the world of birdwatchers. The quality of the numerous field guides available on the market is frequently evaluated on discussion forums.[3] On the Birdforum site, for example, a range of criticisms are leveled against the Collins guide: one person complains that the illustrations showing the adult male Montagu's harrier (*Circus pygargus*) and the pallid harrier (*Circus macrourus*) are too dark; another points out that the pale shadow on the tip of the tail and left wing of the trocaz pigeon (*Columba trocaz*) should not be represented; still another observes that the greenish warbler (*Phylloscopus trochiloides*) sings mainly in August and September and now and then in June and July, rather than "often in June–July." Yet another writes, apropos of the Peterson field guide to birds: "It's dreadful. Have you seen the orbital circles of the peregrine falcon juv.?[4] Cyan blue, is this really possible? And what difference is there to see between the nuptial male and the female white wagtail [*Motacilla alba*]? What about the stonechat [*Saxicola rubicola*] illustration? Is it a decal or what?"

Like botanists, knowledgeable birdwatchers prefer representations and detailed descriptions to photographs, which they leave to beginners. But above all they believe that individual knowledge gained in the field can corroborate, give nuance to, or contradict the knowledge disseminated through reference works. Generally speaking, the authors of field guides are themselves field ornithologists known for the breadth of their expertise. Roger Tory Peterson (1908–1996), for example, became famous for the part he played in the 1930s in the emergence of a new type of book which allowed observers to recognize birds from afar thanks to a method of illustration specially conceived for spotting in nature, with the help of arrows pointing to the bird's main features observable from a distance

3. Field guides devoted to birds are a particularly thriving publishing market in Great Britain. The success of the *Collins Bird Guide* was huge when it appeared in 1999. It was translated into fourteen languages and had a print run of 700,000, of which one third sold in Britain alone.

4. Abbreviation for "juvenile."

Figure 8. *Roadside Silhouettes*. Roger Tory Peterson, *A Field Guide to the Birds*, 1947.

(see Peterson [1934] 1947). In fact, the term "birdwatching" appeared in the early twentieth century, around the time that optical enlarging instruments like binoculars came into use. Guides for observing birds from a distance combined expertise from various sources: field notes and the observations of the authors, information collected during journeys and observations by other birdwatchers, consultation of all existing ornithological works, study of the skins (bodies) of dead birds in museums and private collections, revisions of previous editions, and so forth.

Unlike what I have been able to observe among botanists, this body of knowledge tends to be constantly contradicted and updated by individual observations. Not only is the stability of the model for reference less unanimously accepted, but the very conditions of the perceptual experience with its multiple pitfalls allow more scope for personal discernment. Occasions for visual mistakes are numerous. They have to do with the context of the observation as well as with the birds themselves, which can vary greatly from one individual to another depending on their age, the time of year, their peculiarities, or their strategies for making themselves undetectable.

In first place, size. The measurements given in guides—the length from the tip of the beak to the tip of the tail and the wingspan when the bird is in full flight—can mislead even the most experienced birder. According to Robin, the average frequently given in field guides does not allow for variations in size within a species. Differences in the wingspan of the mute swan (*Cygnus olor*), the whooper swan (*Cygnus cygnus*), and the Bewick's swan can range from twenty to forty centimeters depending on the individual, and the bird's length can vary between ten and twenty centimeters. Moreover, in the case of species that resemble each other closely, for instance the rook (*Corvus frugilegus*) and the carrion crow (*Corvus corone*), size is not necessarily a distinguishing feature, as the sizes of the two species (41–49 cm and 44–51 cm) overlap.

But, can the eye be a reliable measuring instrument when evaluating size is subject to the optical distortions produced by distance, the context of the observation, or the magnifying effect of binoculars? A bird can look bigger in a garden than in a field. It appears to "shrink" when it flies next to a larger bird or can seem larger when it perches in a tree next to a frailer-looking bird. It can thwart any possibility of gauging its size when its silhouette is isolated in the distance against a white sky or appears enlarged in an optical lens without any possible reference to another element in the landscape. For the size of a bird is not so much measured as it is assessed in comparison with a visual marker like a pole

or gate, or with reference to a model (its size relatively comparable to a sparrow, a pigeon, a hawk, or heron), or on the basis of a more precise comparison between taxonomically or anatomically closer species (the meadow pipit [*Anthus pratensis*] is slightly frailer looking than the tree pipit [*Anthus trivialis*]).

Plumage, too, is subject to substantial variations. In the molting period, immediately before and after nesting, certain young birds become "illusionists," such as common starlings whose bodies are speckled while their heads remain light brown. At the end of summer some male ducks display what is termed an "eclipse plumage," their dull brown feathers easily confused with the plumage of females. The black-headed gull (*Chroicocephalus ridibundus*) exhibits a chocolate-colored head from February to June, which turns nearly white like other gulls during the rest of the year. The common buzzard and a few other species have a plumage that can vary from very dark to very light, while still others present faulty pigmentation that can result in a partially or wholly white plumage, such as the normally black blackbird which can become an albino blackbird, or the opposite, being wholly or partially black like the melanistic house sparrow (*Passer domesticus*).

Variations in plumage color can thus be a real challenge for identification, which explains why illustrations tend to produce discussions, either because they do not resemble the specimen (are not blue enough, for example) or because they are incapable of showing the multiple transformations of the bird's appearance. Furthermore, comparisons with images are subject to other strictly perceptual distortions, which may have to do with the ambient light. The intensity and direction of the sun can make a light plumage look darker, and the birds themselves, experts at camouflage, seek to add to the difficulty.

As Robin, James, and David know and frequently observe in the field, the areas of plumage most exposed to sunlight are darker in color while those that are shaded by the bird's body are lighter. Long thought to be a mimetic principle, Abbot H. Thayer showed that such changes in appearance are instead an optical illusion meant to deceive predators. The principle of "countershading" is in fact a "visual compression of a three-dimensional form (creating) the illusion of a flat monochrome" as the shadings of light and shadow that produce an impression of volume cancel each other out (Shell 2014: 24). By "eliminating visible existence," camouflage offers the eye "an empty space actually occupied by a furtive animal," Thayer writes (1896: 126; see also G.H. Thayer 1909). Robin knows how the presence of disruptive coloration can break up the outline of a bird's

silhouette and how difficult it is to discern a bird whose plumage blends in with the immediate environment, whether a carpet of dead leaves or tree bark, a concealment strategy known as "background matching."

Optical illusions obscure the possibility of an exact view of reality by blinding humans to the presence of a bird that is nevertheless there. The prey's "regime of invisibility"—its "cryptic" existence—pretending to absence requires the spotter to render its presence obvious despite the fact that it is removing itself from sight, even literally erasing itself. Many a time I have sought to train my eyes in the direction indicated by an outstretched arm and finger, straining to follow an imaginary line only to find no animal at the end! It has also happened that I glimpse a bird in a landscape, only to lose it when I raise my binoculars, unable to match the enlarged vision with ordinary eyesight. James believes that a good birdwatcher is one with the capacity to, with or without binoculars, adapt his or her vision and to discern an animal shape that eludes the perceptions of a beginner. The good birder gives visibility to creatures that shy from being seen. The observer's attention can focus on imperceptible body movements that occasionally blend in with leaves swaying in the wind or on silhouettes that have become familiar to the point of being discerned in the confusion of the surrounding foliage.

And so only what is seen is known. However, one needs to add to this a sensorial dimension that is particularly operative for birdwatchers: hearing. The ear guides the eyes in order to detect a bird, or can even substitute for it when the bird remains concealed. Numerous birders would agree with Simon Barnes when he says, "like birds, we humans are creatures of sight and sound" (2011: 7). Birdwatchers listen as much as they look. I have often seen Robin cast his eyes on the ground, foregoing seeing the better to hear and picture the bird mentally: "sometimes you see better keeping your eyes closed," he says.

The sensorial world of birdwatchers is auditory as much as it is visual. In this connection the question of a concordance between the sound and its transcription is still more revealing of the discrepancies between the observed and its representation. To an even greater extent than images that would have us believe that they are an accurate reflection of existing things, aural transcriptions leave us in no doubt that they are translations.[5] All birdwatchers agree on this point. One of the techniques for

5. In a lecture titled "Langue des oiseaux," Érik Bullot describes the range of connections between the alphabet, words, and things in regard to transcribing birdsongs and cries. See Bulot 2016.

describing the modulations of a birdsong, for example, is to use onomatopoeia, a method of imitation based on transposing heard sounds with the help of ordinary language. In the Collins guide to the *Birds of Britain and Europe*, we learn that the great crested grebe (*Podiceps cristatus*) emits a hoarse "gruck gruck" and that in the spring one may hear the rumbling, trumpeting, croaking "arr," "k'pkk'p," "ktiik"; that the red-throated diver (*Gavia stellata*) produces a gruff "gre-gre-gre" and in flight sometimes goes "gak gak" (which French field guides "translate" as coac-coac-coac"!); while the black-throated loon (*Gavia arctica*), which one hears in the spring, sounds like "a-uuua, auuqui, auuihuuih," and so forth.

Such phonetic transcriptions of birdsongs and their rhythms used very frequently in field guides openly assume the existence of conventions for employing thoroughly human sounds not so much to imitate actual birdsongs as to represent what the ear perceives and what humans are capable of reproducing with the sounds available in everyday language. I witnessed this myself when, a Collins guide open on my knees and a robin twittering a few meters from where I sat, I lingered over the description of its sounds: "call: a very rapid 'tsiktsiktsik'"; "alarm call: 'tsich,' warning of an aerial predator"; "song: melancholy, solemn whistling, begins with several high whistles leading to a series of clear falling rippling notes and trills" (Nikolai, Singer, and Wothe 2008: 202). The phonetic transcriptions and the textual descriptions that accompanied them were obviously not a preliminary to recognizing the song! I shut my eyes, listened, and translated into my notebook a long, rapid series of "tik-ik-ik-ik" sounds without ever hearing the "ts" indicated in the guide or the melancholy tone of the whistle. As Bill Oddie points out humorously in the *Little Black Bird Book*:

> The trouble is, there is no real substitute for hearing the real thing. Books try as best as they can, but, just to balance up the seven different versions of the same thing, you can just as easily find the same thing for seven different species! For example, have a browse through the phonetic renderings in field guides and you'll find a dozen different species that are supposed to go "Pee-oo" … You also find quite a few different birds that go "Twik"; several that go "'tsip," and any amount that go "chak" … And what is the difference between "ki ki ki" (Merlin) and "kee kee kee" (Kestrel)? Perhaps it is just a cheeky

> way of telling us they sound exactly the same. (But as a matter of fact, they don't). (Oddie 1999: 114–15)[6]

Correspondences between the language of birds and the language of the observer can also rest on the analogy between words and the things they designate. For example, I discovered that the chiffchaff (*Phylloscopus collybita*) gets its name from a rapid aleatory combination of "chiffs," "chaffs," and "choffs"; that during their mating season common teals (*Anas crecca*) produce a sound resembling "teal"; that the name of the common quail (*Coturnix coturnix*) comes from its cry. In descriptions in field guides as in those of my interlocutors, birdsongs are occasionally likened to other sounds through a metaphoric process: the gray partridge's (*Perdix perdix*) cry sounds like a key turning in a rusty lock; that of the marsh tit (*Poecile palustris*) reminds one of a sneeze; that of a cormorant, a gargle. Such descriptions depart from the "true to nature" mode of illustrations. The names sing in the observer's ear and function as a mnemonic device connecting words and things, sounds and meanings. It is thanks to this principle that the song of a goldcrest (*Regulus regulus*) can be recognized as "an ultrarapid explosion" of a hundred or more notes combining several mini-trills and a dry hiccough at the speed of a "small machine-gun"; the robin (*Erithacus rubecula*) emits different verses each time, but always with the same "watery theme" consisting wholly of "gargles and drips," with slow, long notes followed by "sudden bursts recalling a brook with still pools and small cascades." Musical ornaments like trills, aquatic tones … as in art, a bird can remain close to words and to an auditory range of melodies and rhythms that suggest music and idiophonic linguistic signs.

But the fruitful similarities that many artists have drawn between music and birdsong go no further. To the birdwatchers I've known, translations of a soundscape into words or music are less important than identifying a song by which a bird is recognized. It is for this reason that they far prefer training their ear by listening to sequences recorded on the CD of a field guide or on sites devoted to identifying birds. In the manner of illustrations, these recordings cleanse reality by reproducing characteristic sound patterns in order to facilitate memorization and identification. But unlike birds, who avoid mechanical regularity and the extreme simplicity of inconsistent chirping, testifying, according to

6. Oddie is a popular figure in England; he is at once a writer, an actor, a television presenter, and a birdwatcher.

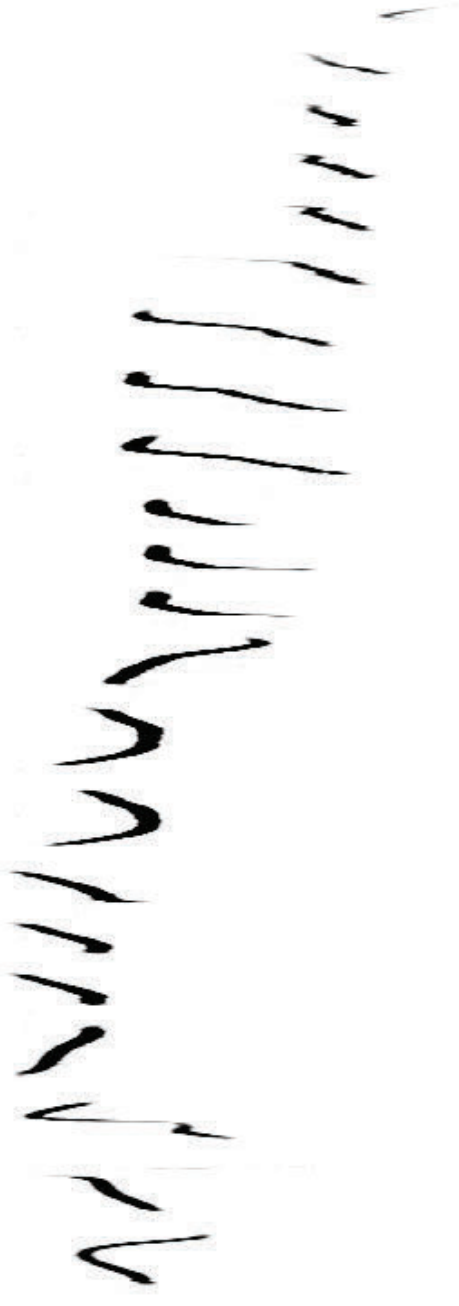

Figure 9. *Willow Warbler Sonogram*. Wikimedia Commons, 2006.

Dominique Lestel (2003: 216), to the aesthetic aspect of their production, recorded songs function as selected markers of their species identity; they exclude the variations that birds are particularly fond of and which they "play" according to the context, location, and individual.

Distinctive sound sequences are helpful for species that like to repeat themselves, like the chaffinch and the yellowhammer (*Emberiza citrinella*), or for species that run through the same sequence of two notes several times, like the great tit (*Parus major*), or that produce numerous distinct sequences (or strophes), repeating them several times with a short pause after each sequence, like the song thrush. For birds that improvise, like the common robin, the blackbird, and the blackcap (*Sylvia atricapilla*), birdwatchers hold that sonograms of sound recordings that make hearing coincide with seeing can help the observer perceive patterns that the ear by itself would have trouble distinguishing in the cacophony of ambient sounds. A sonogram functions as the visual signature of a song: the parallel vertical lines indicate occasional motifs, the thicker horizontal strokes represent sound motifs linked to the same frequency level on a graduated hertz scale, etc.

Thus, whether one is dealing with birds or plants, patterns based on representations or transcriptions function as characteristic indicators of a species, it being understood that in order to be effective these representations or transcriptions must follow standard, reproducible conventions exemplified by botanic illustrations and sonograms. The model needs in some way to be stable and normative for reality to be legible. Yet it would be a mistake to view this as an attempt to reduce living beings to a set of types. As we have already seen, it is the discrepancies that interest observers of wildlife, in that they challenge the generic representations of what they encounter in the field. Categories, that is to say the order underlying things, permit one to think about and to experience variations, hybrids, and, in general, the complexity of reality, and to deploy it instead of containing it. However, in order to deploy it, one must indeed possess the familiarity acquired by dealing and experimenting with difficult co-occurrences.

Fusing

Measurements like the characters indicated on illustrations or sound transcriptions are not prerequisites for recognizing wildlife. Indeed, one frequently needs to recognize the individuals belonging to a given

species, as well as different neighboring species, and in different circumstances, for indications of size or morphological or sound specificities to be at all useful.

As we have seen, birds vary their wardrobe (breeding dress, plain winter dress), and the species has to be recognized under its raiment. This is why song as well as the deportment of birds can be extremely helpful for identifying them; both their silhouette and manner of behaving provide vital clues that field guides cannot render. A blackbird behaves and sings like a blackbird even when it is white. In their manner of moving and in the postures they strike in various circumstances, the ontology of beings reveals itself beyond plumage, which the observer furthermore does not always have time to see in detail due to distance or the bird's furtive presence—no sooner spotted than it flies off—or because of visual obstacles (the color of the feet in certain species, which can be an important clue, may be hidden by tall grass or splattered with mud).

One of the challenges of identification consists thus in recognizing the visual and auditory "personality" of a living being without referring to the characterizing details of the species, a procedure comparable in this respect to the cognitive operation of identifying a face without having to rely on a conscious recognition of all the particulars that distinguish it. In the world of birders—and butterfly watchers—there is a term for this ability: the *jizz*. The word's supposed origins are numerous but the most widely accepted theory is that it is derived from the jargon of British fighter pilots, GISS meaning *general impression of size and shape*. The idea is that living beings have an idiosyncratic visual identity not reducible to behavioral traits or anatomical features, but one that allows the observer to recognize them at a glance, even from afar, against the light, or in shadow. The same process is at work in the songs and calls that are characteristic of a bird.

> It is hard to write the sound of a cello, or to describe the Bach cello suites, but there is a part of our brain in which we store the memories of sounds without need of verbal classification. You can activate this only by listening. First you listen with your conscious mind, but then, soon enough, you will find that the lessons have got embedded. Soon enough, you find that you know you are hearing a [English] robin without needing to think about it. The song has become part of you. (Barnes 2011: 9)

Jizz designates both certain qualities inherent in the animal and the cognitive and sensorial competence of the observer. Scattered visual and

aural impressions aggregate during the repeated experience of a copresence and make it possible to identify beings on the spot without having to observe them meticulously and methodically. In an article devoted to this subject, Rebecca Ellis emphasizes "that the pinnacle of achievement that really signals the insight of a virtuoso naturalist is to be able to transcend disciplined attention to detail, and to see a species accurately in a moment of flash recognition … *Jizz* then reflects and perpetuates a certain romanticism that has characterized naturalist pursuits for centuries, and that coexists with the contrasting slog and sheer grit of methodically learning how to distinguish and characterize things" (2011: 772). I do not here refer to a romanticism but to a skill that naturalists elevate to the level of a performance, for it is the result of a lengthy process of sensorial education leading to an incorporation of knowledge that accumulates in them without their being aware of it. One could regard recognizing a bird or plant at a glance as a banal cognitive act of holistic recognition of beings or objects, whether natural or artificial. As Lars-Erik Björklund and Karin Stople put it, "As we re-experience a similar situation, the implicit memory system will make an unconscious pattern recognition to help us feel and act in the same way as we did the last time" (2010: 52).

Yet naturalists insist that they have the "ability to see differently" and that theirs is an "art of seeing." I prefer to listen to them rather than to heroize their skill. *Jizz* is less a romantic dream of communing with nature than the outcome of a lengthy, methodical, and painstaking immersion in the physicality of bodies and behaviors which enable the observer to accede gradually to a new sensorial version of reality. When Robin, at the steering wheel of his car, windows open, speeding along a country road, interrupts our conversation to listen to a song and names the bird before going back to our discussion, I realize that he and I do not inhabit the same universe and that birds have become, as he himself puts it, part of himself. Behind each call or song stands a bird belonging to a species that has become as familiar as a tune echoing in the head. When Liz walks along a hedge and plants catch her eye and are immediately recognizable to her, the same process is at work. If the term *jizz* doesn't exist in the world of botany it is no doubt because recognizing plants, unlike identifying birds or butterflies on the spot and from a distance, requires above all an attention to infinitesimal morphological details without the help of differences in behavior (ways of moving, singing, etc.).

The secretive creature reveals its identity by virtue of an accommodation that eludes the descriptions of seeing (or of hearing where birds are

concerned) once the observer is free of the standardized criteria of scientific objectivity. Hence the recourse to the notion of "magical talent" to designate an accomplished proficiency, the manifestation of a naturalist excellence that commands the admiration of those who do not yet discern—or will never discern—the identity of beings difficult to recognize at a glance or among a welter of sound.

Each of us knows that we are subject to failures of perception even when we have learned to navigate in a world of other creatures with the ease of someone who is able to name without having to think about it. Nonetheless, the notion of *jizz* is powerful, less because of its infallibility or effectiveness than because better than any other notion it brings to light and synthesizes the mechanisms and issues of identification. *Jizz* and its botanical equivalent tell us in effect that the experience of a perfect coincidence is possible between the perception of a thing and its ontology. Naturalists speak of a "mental fusion" when describing it, as this acknowledges the fact that individualizing living creatures is not just a matter of deciphering but also incorporates animal or plant identities. The body, senses, and memory of naturalists are unparalleled instruments of knowing without which there would be no knowledge.

Drawings, photos, words are like nature's writing: they are much more than just material emanations of a living organism or an ideal type. They are a means of learning to see differently, of training for an incorporation that gradually reduces the specter of uncertain perceptions, the discrepancy between things observed and things described or represented, the distortions between appearances and the essence of beings. The process of identification thus consists first of all in experiencing the difficulty in matching the text or image with what one has actually seen. "An elusive natural object (the bird-in-the-field) conspires with the book's formal devices to frustrate the reader's effort to bring text and object into correspondence," Michael Lynch and John Law write regarding the observation of birds (1999: 332). Little by little, one learns to move around in the natural world "as in a book"—in other words, to make one's way mentally along the dense, complex, branching formal classifications in guide books at the same time that one explores a countryside packed with beings full of ruses and ways to trick the senses, and that one gradually learns to put a name to without referring to a text or an illustration. In James's words, "nothing replaces experience; to learn how to see you need to leave your binoculars hanging around your neck and your field guide in your car." Or as Anne puts it, "a good botanist can be recognized

by the fact that he doesn't always look at the open pages of the book he holds in his hand."

To see, it is not enough to look; one needs to train one's eyes in order to attain a new sensorial version of reality. And where representations are gradually internalized, it is because this training consists in transforming a person into an instrument for detecting and individualizing beings. No need for any experimental device, any technical alternative. Knowledge cannot be produced apart from the naturalists themselves: for them, this is the ultimate perspective, and its high point is the moment when the reference type and the specimen become one with the person. Identification is experienced as the pathway to the secret universe of vegetal and animal creatures viewed through the prism of the perceptual, especially visual, interplay they involve. Identification turns the world into a measure of the observer's experience and makes experience a measure of the world.

Naturalists thus circulate among these beings that have an uncertain identity and/or a furtive presence, with the ease of just another biological species among the others, and with no need for any artifact. The complex process of wondering "what is that?" guarantees an immersion in the world of natural creatures and increases the observer's intimacy with them. These beings are a blend of paper and flesh, and all have carefully ordered names. The observer comes as close as possible to them thanks to the perceptual challenges posed by their identification, which only naturalists are able to resolve. Because of this the living gain consistency. By being sensitive to all the features of a bird or plant, by noting how it presents itself both in the field and in a guide, the observer pulls everything together and imparts existence to a living creature.

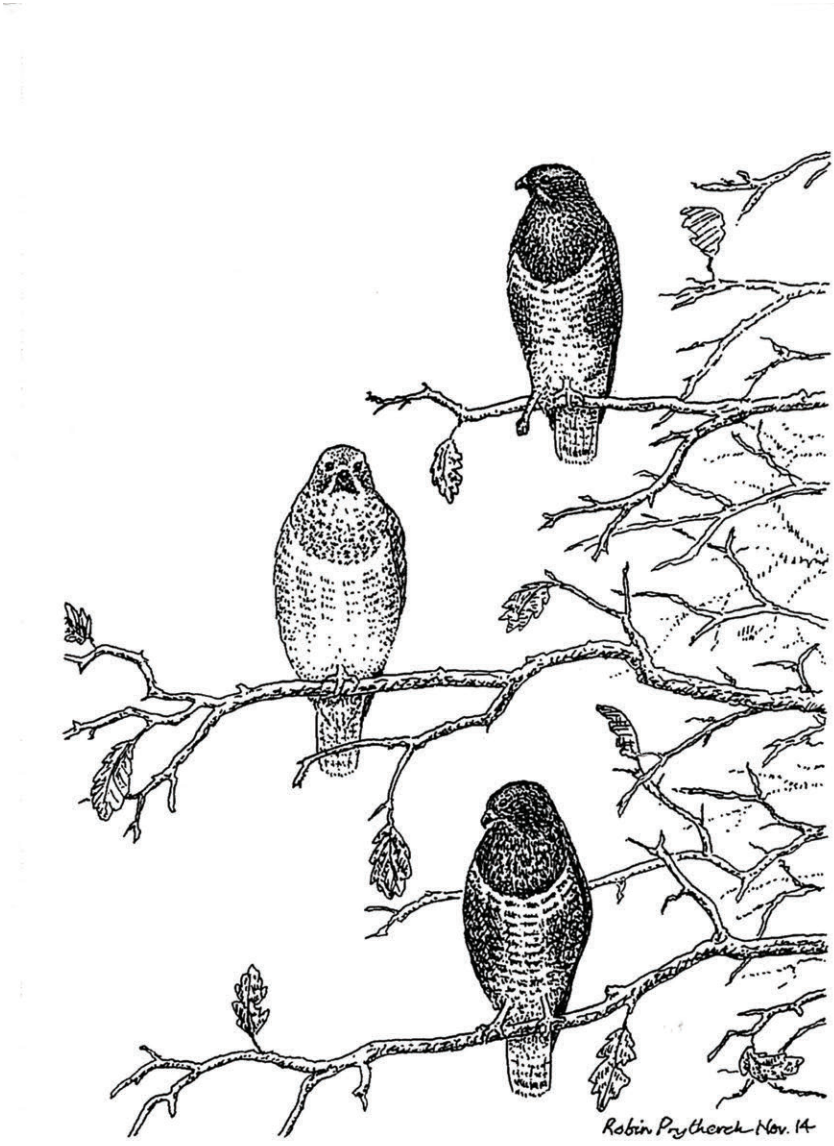

Figure 10. *Rev and Speckles … and Spotty*. Drawing by Robin Prytherch.

CHAPTER 6

Wonderful Creatures

For the ornithologist Byron K. Butler, a true birder can be recognized by the fact that he or she does not suffer from the "aquarium syndrome," meaning that the bird is not viewed "like a goldfish, something in another world to be looked at." Instead the true birder sees from inside the fishbowl in an effort to try and understand what it feels like to see the world "from the creature's point of view" (Butler 1996). As we have seen, immersion is the desired goal. This can take the form of an in-depth inventory of the beings populating a particular "patch" combined with an intensive study of their distribution, but it can also be a detailed observation aimed at identifying them to the point where one is able to experience the immense satisfaction of existing in their midst without feeling a disjunction between the knower and the things to be known.

Yet, when observers speak of immersing themselves in the world of the living in order to experience it as it looks from their point of view, a further step is taken. When Liz listens to what her plants "tell" her—"they tell me they would rather be here than elsewhere"—she puts herself in their place, so to speak, or at least she recognizes their status as agents even though there is no question of her attributing an interiority to them or treating them as true interlocutors. Indeed, I have never heard it said or been in a position to observe an attribution of qualities to plants suggesting that a dialogue or interaction might be possible or even envisaged. For all that, we are talking about an immersion in their world to the point that it becomes possible to recognize and anticipate their singular manner of behaving, their preferences, their inclinations, and

the reason they act the way they do, which amounts, to a certain extent, to learning to view the world from their perspective.

With birds things get more complicated. I have often heard it said that one of the challenges for observers is to approach the avian perception of the world and catch a glimpse of what it feels like to be a bird, spoken of as "feeling the creature," through a lengthy immersion in their manner of being and doing. We can follow Robin to try to understand this. Robin is the birder who spent the most time observing a single species I've ever known.[1] He defines himself as at once a birder and an ethologist: "My motivation is to see what these birds are up to when I am birdwatching, what any bird is doing. I am always watching to see what they do. I don't only want to merely recognize them." Because he studies intensively the individual and collective behavior of common buzzards (*Buteo buteo*) in the small territory they inhabit near Bristol, Robin asks (and asks himself) a number of questions concerning their intentions and their mode of forming a society.

These questions raise issues of methods of observation as well as of attempts at interpretation based on understanding and establishing as accurately as possible what common buzzards experience, with all their reasons for behaving held to be mysterious, often beyond the observer's comprehension. To grasp what Robin views as a form of otherness, he must both draw on what he knows from his human viewpoint, with all the limitations that this involves, and exercise a precision and imagination in objectifying the world of buzzards. In many ways this approach echoes the method advocated by ethnographers in the field, although it does not coincide exactly with it. It harks back to an implicit theory of the empirical knowledge of others.

Avian Zoography

Robin has a soft spot for birds of prey. He has traveled widely and explored famous sites like Porthgwarra, St. Ives Island, Prawle Point. But since the 1980s he has spent most of his time in "Buzzard Country," west of the city of Bristol in England. His early retirement from the BBC, where he directed radio and television programs on natural history, coincided with

1. I choose to put Robin's statements in the present as if he were still around as a way of honoring his presence, which remains active both on the pages of this book and in my thoughts.

his focusing on this habitat. Now reluctant to leave Bristol, he recognizes the value of certain trips, which have proved invaluable for the sake of comparison, like his brief visit to Israel in 1984 during which he was fortunate to observe several steppe buzzards (*Buteo buteo vulpinus*) migrating north. "At Eilat, I held one which had been trapped for ringing: what a splendid bird it was! As it flew off, I couldn't help but be amazed by the difference between that bird's lifestyle and the birds back home."

Robin's passion for buzzards began thirty-five years ago. When he adds up the time spent observing them, he reckons he put in 1200 hours in the field each year, or a total of 42,000 hours, at a rate of between seven and twenty-eight visits per month, each lasting between three and eight hours. Buzzards started to interest him when he had the intuition that there was a discrepancy between his field observations and the records in the annual bulletin of the Bristol Ornithological Club concerning the number of buzzards in the former County of Avon, whereupon he undertook to count them. He discovered that their number was underestimated, as they were less frequently observed and appreciated than other, more charismatic species. He saw an opportunity for rehabilitating them and supplementing what was known collectively about their distribution and local populations, as well as for acquiring an area of expertise rich in investigative potential.[2]

The small Gordano Valley, a delightful area of gently undulating country, thus became the terrain (or "plot") of Robin's regular explorations. On our first visit there he brought out a map and drew a large oval two kilometers in length by one kilometer wide around a portion of the valley floor and the more or less steep slopes to either side of it, so that we could cross a variety of meadows, marshy zones, and woods. He wanted to show the magnificent diversity of its habitats. Over the next few days, he wrote a poem retelling our excursion in the form of a succession of stanzas, each one referring to a landscape or to a specific visual moment or sound, in a chronological recreation of our walk.

We walked along the bottom of the valley until, leaving it on our left, we took a small straight road where we saw and heard several buzzards.

We started off along quiet narrow lanes.
As we walked below tall hazels, buzzards called;

2. Birds of prey were long viewed as pests. Accused of killing winged game, they were intentionally destroyed before being protected by the Wildlife and Countryside Act of 1981.

they were two fledglings screeching at their parents,
one circling high, below a thin hazy cloud.

Then we headed back down toward the valley floor, following a poorly maintained track in the middle of a pasture for domestic animals.

The field was awash with waves of uncut hay,
and the path very difficult to follow,
until we got to the hedge of rambling may,
which overgrew the path, forming a dark hollow.

We next reached the flattest and dampest part of the valley. It was like a river bed.

This led to flat meadows of a special kind,
reserved for reeds and other damp loving plants.
Our path enters the reeds, but is hard to find.
My arms force away the reed stems with a glance.

We disturbed a reed warbler (*Cardellina rubra*), a summer visitor of reed beds.

This disturbance upset a male reed warbler,
causing it to burst into its noisy song,
but only briefly; this is late for a warbler.
Soon they will all be joining the autumn throng.

Climbing the gentle slope, we then crossed a corn field.

On across the damp meadows our path leads us,
over stiles, passing a field of growing maize,
over a lane, where tall parsley wafts us,
and the young tree plantation obscures our gaze.

Next, we climbed steeply through woods.

A few steps on and we entered a woodland
of mature oaks and ash with clinging ivy.
Small birds forage so fast they seem not to land.
Our path is now shaded by the canopy.

We walked along a wide forest track to the brow of the hill.

Which soon gives way to scattered trees and meadows.
Bright butterflies flit between lovely flowers—
Marbled whites, commas, also small tortoiseshells.
Blackcaps are heard and a garden warbler sings.

We had a stunning view of the Gordano valley from above.

Before us stretched the Gordano Valley;
its wet meadows and ditches, hawthorn hedgerows,
and poplar woods form the base of the valley,
with its side slopes cloaked in oak and ash woodlands.

Despite my questions, Robin spoke little about buzzards during our walk. He was rather silent, his attention being focused on the walk itself. "Even just walk out of the door, you know instantly, your brain is registering anything that's happening in the natural world. It is not necessarily birds. Oh, I have just noticed that tree, the first green bud appeared and it's wonderful having this kind of finger on the pulse of wildlife, which is what it is, and that is what it's all about." To enable me to discover the terrain, Robin did not station himself for hours as he usually did at his favorite observation points, slightly below wooded areas. For he usually doesn't walk about, or does so very little; nor does he couch his avian observations in a literary form. Mostly he posts himself not far from his car, one eye glued to a telescope, or he remains seated in the car, a notebook on his knees, binoculars regularly lifted skyward. No doubt he thought that this debut in the guise of a walk was more adapted to the anthropologist I was, who knew nothing about buzzards and the delight of immersing one's senses in the plant and animal habitat they fly over each day.

For Robin's territory is also and above all the buzzards' territory. The limits of Robin's plot coincide with the territorial limits that nesting and sedentary pairs have established, which he has succeeded in mapping over the years by observing the birds meticulously hour after hour. Comprising nearly seven square kilometers, the plot is subdivided into tens of rounded, oblong segments corresponding to the areas held by pairs of buzzards in a relatively stable and long-lasting fashion. These areas, generally exclusive and fiercely defended by males, and to a lesser degree by females, include a few woods, a bit of arable land, and some meadows and pastures, much like the portion of "patch" we walked through.

Confirming the existence of a specific territory for each pair of birds, or nearly so, and being able to map its limits, would seem to be a rather unimaginative occupation. Yet this is far from being the case. Everything begins with locating the birds' nests in the spring and then associating them with accessible observation points offering a visual perspective of the birds' daily routine. "My method of working is simply that I got to know there were certain places where I can watch the birds move from one place to another, how they interact with each other, so there are several places where I watched birds from and that's how I built up the picture." Robin describes the visual field which determines his choice of observation posts as having the shape of a saucer, on the model of the territory held by the pair of buzzards.

> The buzzard territories are like a valley or a *cwm*,[3] off the edge of an escarpment not surrounding a small hill. And the reason for this is they are very territorial and so they spend a lot of time near the ground, tree height or less. If you have a saucer-shaped territory, the absolute ideal, from anywhere in your territory, in every tree you are sitting in, you can see the rest of their territory. If you are in a territory shaped like a hill, you could be sitting in this side and another buzzard could be on the other side, tucking into your rabbits (ha, ha!) … So territories are like that, or they are just a half of a saucer. So I was able, later on, to more or less predict where another pair was, or was going to be staying. Oh, why is there only one pair here? There should be more than one pair and ultimately that happens, the old territory breaks down and there are two pairs and it usually takes the death of one of the incumbents and before you know it, another pair of buzzards would see an opportunity and grab part of the territory.

The alternating pronominal forms *they* and *you* (*you* can be a pedagogical *I* or a *one* that includes both bird and man) underline the homology between the buzzards' territory and the territory of the observer. Also indicated is Robin's capacity to anticipate intuitively, from the topography and on the basis of their size and location, the approximate outline of the birds' respective territories and their potential evolution. This detailed perception of their spaces amounts to seeing the territory in terms of the buzzards and from their point of view. The areas Robin

3. A Welsh word for something having the form of a valley.

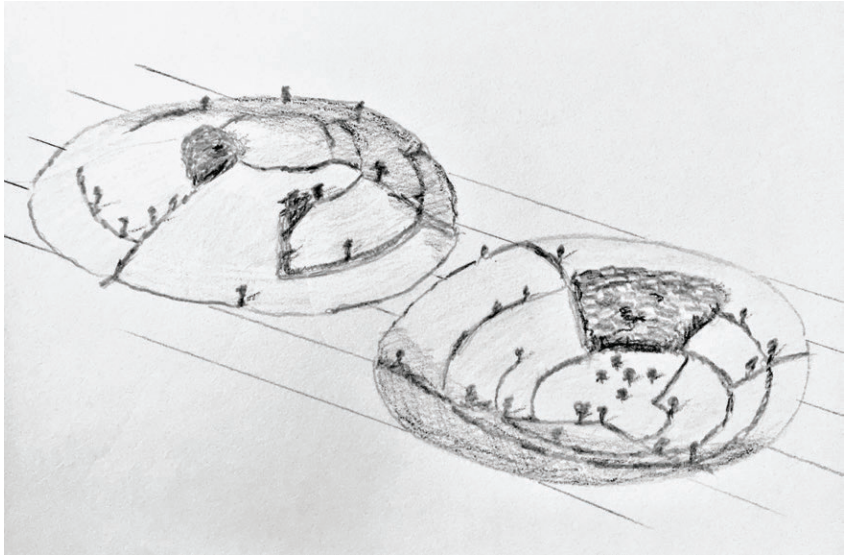

Figure 11. *Buzzard Country*. Sketch by Robin Prytherch.

draws on the map are fields of vision of the birds which he is capable of estimating because he has assimilated their mental map.

The exact outline and evolution of the birds' territory is determined by their flight and interactions. Birds in a pair don't often cross the invisible lines; those they do occasionally cross are tangible and tacitly recognized by holders of adjacent territories. Each bird hunts on his or her own territory, as is made clear by the spatial distribution of their flights. And when a bird happens to pursue a prey across a contiguous territory, it does so rapidly. When it lingers there, the male of the transgressed area—the holder, incumbent, or resident—will lift off from his perch and either fly next to the intruder (and in general it is nothing more than that) or will escort it back to its own territory with no sign of aggression The intrusion is tolerated, more or less like what hunters would call a recognized "right of pursuit" for neighbors. In Robin's opinion there is no doubt that neighboring couples know and are able to recognize each other and that transgressions are considered for what they are: "they understand what is going on." Translated in social terms, the relationship amounts to a kind of mutual aid—"neighbors will do the same for me"—which is all the more striking in that the birds are sometimes closely related.[4]

4. Young buzzards often settle near their birth places.

Robin contrasts this solidary operational mode among close neighbors with unaccepted intrusions that pit one generation against another. These squabbles can result in territorial reconfigurations that coincide with the formation of new pairs. March 29, 1984, was special from this viewpoint. Robin's field notebook mentions ideal weather conditions on this day—"fine, hazy dawn, clear, clouding up at 3/8 to 4/8. Light wind WNW, warm in sun"—offering birds a large number of opportunities for spreading their wings as, gliding on the waves of winds striking the slopes of the hills to either side of the valley, they gained altitude. "Buzzards use these to good effect to gain height in order to perform the aerial displays which advertise or mark their territories or to defend them against intruders. These are the flights that I want to see." On the day in question Robin observed about twenty birds flying past the limits of seven territories, a veritable effervescent ballet of spectacular chases, a "sky dance." The presence of intruders was immediately "spotted," as he says,[5] by adult males perched in the heights, long before Robin himself saw them. Having learned to detect their presence by discerning signs, in the attitude and behavior of the bird he was watching, addressed to an interloper, he was able to surmise what the bird saw even before seeing what it saw. The repertories of their signals are complex and multiple, from the first warning signifying "get out or further action will follow" to more or less strong, aggressive, and prompt signals, depending on whether they confront a more or less insistent, aged, or repeating intruder. In general, everything begins with an "assertive bow … Moving into a horizontal posture, the adult lowers its head, sleeking the head feathers, with the base of the upper neck raised, sometimes with the secondaries flared slightly." Then, if the young transgressor has to be chased away or attacked, the aerial demonstrations increasingly succeed each other, alternating display stoops, display dives, wing flapping, display banking, sudden rotations, plunging, assertive flight postures with lowered talons, etc.

If each display can be described as a relatively standard form of behavior in the context of a territorial dispute, the manner in which birds carry it out testifies, according to Robin, to their inventiveness: depending on the bird and the situation, there are variations in intensity and emphasis, intimidating postures or interactional feints. Each protagonist adjusts its behavior to the other's, responds to each move with a move of

5. Birders also use this term to designate the perception of a bird entering their field of vision.

its own, endlessly repeating, according to its age, mood, and personality, loops, dives, accelerations, sudden twists. When Robin watches buzzards circling in the sky, following their circumvolutions with his eyes, he deciphers an aerial language that is shared and negotiated between fellow creatures; he also discerns individual performances tested and decided on the spot. Hence his propensity to call their flight "ecstatic," for he is convinced that not only do they constitute a social activity and method of interacting, but are also an area of expression with the emotions this entails.

> When they go up and down like this, they call occasionally, against the sky and a few clouds, and you look, you can see these birds and they are so absolutely, completely turned on by what they have just been doing. I called it ecstatic behavior. There is no doubt about it. The bird is a vertebrate just like us. Yes, you recognize skeletons that you can relate to, mine, and your skeleton, and I am sure the brain is the same, it's divided in the same way, it does the same functions but in different proportions. Therefore, it has the common factor, so we really get a thrill out of being satisfied at having done something, no matter what, even just finishing writing a paragraph of a book, not necessarily having run down the street and yelled your head off or something. So, I think, other creatures are capable of this but probably express it in different degrees. When we are engaged in sporting activities, we can become very ecstatic. And we can say that some species get involved in all this display in the air. It's difficult for us to imagine. Only people like ski jumpers or people like that have any impression of what it's like to sail through the air. And these birds, all of them, all of the species, have such command of the three dimensions!

Here the enthusiasm of birds in flight, the satisfaction they experience when the outcome of a well-performed action is successful, their delight in the vertical third dimension much as humans feel, are justified here by a biological kinship between isomorphic structures (the kingdom of vertebrates). When Robin wrote an article titled "The Social Behaviour of the Common Buzzard," published in 2009 in the renowned *British Birds* journal (Prytherch 2009),[6] the editors had some reservations about the

6. *British Birds* is a monthly journal for British birdwatchers, founded in 1907.

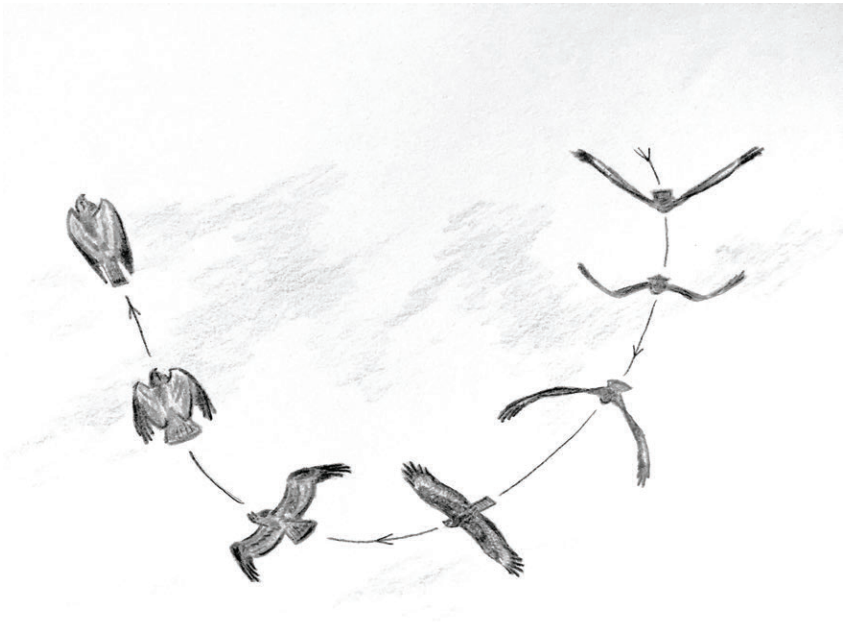

Figure 12. *Birds in Flight.* Drawing by Robin Prytherch.

term "ecstatic," considering it improper for describing a bird's flight and a (naive) projection of human attributes onto birds. In the end, Robin relinquished using the term, although he continued to hold that it was an appropriate description of the behavior of buzzards that could not be reduced to a repertoire of preprogrammed attitudes or severed from the bird's experience.

Robin is careful with terms he knows are likely to create confusion between subject and object, yet he does not regard the inclusion or attempts at describing the experience of birds as transgressions. In fact, he believes it is impossible to describe their behavior accurately in order to account for their actions without a certain degree of anthropomorphism. "By definition, anything we say about other creatures is anthropomorphic. Bound to be, isn't it? How can it not be? It is us that are thinking about it. We are trying to detach ourselves from being a human being as much as we can, and you know, it is quite difficult to do." Buzzards have intentions and their own perceptual world. Robin refers to human experience to make these intelligible and humanly accessible. Men and birds inhabit dissimilar yet analogous—that is, comparable—worlds: he bears witness to this and translates. While a forest undergrowth does not

represent the same thing for humans as for buzzards, it can be compared to a familiar street for humans. If the avian world were incommensurable, there would be no possible way of knowing it. In this connection Robin would not dispute Eileen Crist's statement regarding naturalist descriptions: anthropomorphism is an intermediate system which establishes continuities of a sort in order to disclose differences, and that rests on the assumption that only empirical knowledge is able to guarantee a realistic and faithful knowledge of reality (Crist 2012: 51–61).

Buzzards have their own irreducible and singular world, and in order to portray observed behaviors in a realistic fashion Robin uses verbs of action that describe scenes that seem to be taking place before his eyes or that generalize a mode of action observed repeatedly. In both cases birds are usually viewed as subjects of the action: "The intruding bird would seem to be signaling the passive nature of its presence, while the adult is making it equally clear to the intruder that it should move on. Should this basic signaling fail to have effect, the adult has a choice of other behaviors to draw upon to reinforce its message." Whatever way buzzards act, their actions are never devoid of meaning to others, or even to themselves. Similarly, bodies in motion are not described as organisms but as subject-bodies driven by intentions and able to make choices. This does not mean that an unequivocal interpretation of their behavior is always possible; only that a meticulous and sustained observation can give access to understanding it (Crist 2012: 51). The idea that there is a continuity between the behavior and the mental life of birds does not need to be demonstrated; for Robin it is the postulate underlying any observation. What observation hopes to achieve is precisely the reasons behind the birds' behavior.

These reasons are usually formulated in terms of communication. The attitudes and observed behavior of birds become meaningful only because they take the form of a dialogue between beings placed in a position of interlocutors. Describing the flow of actions in a buzzard's everyday life is equivalent to constructing a relational hypothesis: in the main birds act in order to convey a meaning. Each type of behavior becomes an exchange of information and amounts to a signal. As Vinciane Despret has clearly shown apropos of interpretations of the purpose of the Arabian babblers' (*Argya squamiceps*) dance, "There is a mirror effect, for the observer and the observed are constrained to the same task of decoding a behavior … A behavior is no longer a simple action on the environment; it becomes a series of bits of information that the individual communicates to its environment" (Despret [1996] 2021: 101).

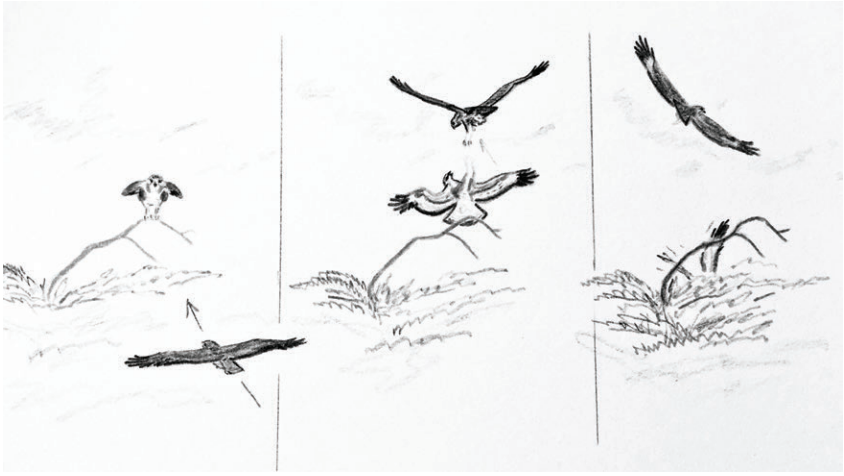

Figure 13. *Intimidating Display*. Sketch by Robin Prytherch.

The descriptions that Robin gives in this article in *British Birds* attest to this view of the birds' behavior. When a male suddenly breaks off its flight while pursuing an intruder, returns to its mate, copulates rapidly, and launches back into flight, Robin suggests that "the birds are using the conspicuous behavior of copulation for a secondary purpose, to signal clearly to an intruder that here is a pair on the territory" (Prytherch 2009: 261). When an intruder still in view or just out of sight exits from the unduly transgressed territory, the male celebrates its victory with a series of majestic loops, "a thrilling combination of grace and tremendous élan." This creates the impression, Robin goes on, "of great fitness and this message is presumably transmitted to its mate and to any other buzzard in the vicinity" (2009: 256). When a male and a female approach each other with lowered talons, an aggressive posture usually reserved for capturing a prey, attacking a predator, or attacking another adult, "the male is signaling his aggressiveness to the female and she her dominance, as she does not flee. The mutual confidence signaled by this action could also indicate compatibility in the pair" (2009: 269).

In another article, in which Robin relates a day with "his" buzzards, he describes the birds' actions in the wild as essentially a dialogue, to show the intentions behind their behavior as an interaction negotiated between individual birds.

> Twenty minutes later, I spotted two buzzards slope/circle-soaring on the east segment of CC—a small pale bird and the Contrast-male

> (from L) again. The pale one made a few rather mild aggressive dives at Contrast-male (I wrote "more like play-punching" in my notebook), but when they got near the edge of the territory CC (as they drifted east) the Contrast-male suddenly dived three times, much more intensely, on to the pale bird which glided back west to settle in the center of CC. Contrast-male followed, and then circled once to glide back to where the chases had occurred. He glided into a tree and I could just see a lot of flapping of wings—strongly suggesting that he was copulating with his mate. So it looks as if the pair from L have extended their territory and taken part of C. (Prytherch 1989: 40)

Buzzards are always ready to respond; they show initiative in their exchanges. Their relational, subjective understanding of the action they are involved in, as Robin sees it, assumes that, in addition to the behavioristic recurrences proper to the species, there exists an infinity of variations relative to the interactive situations and to the protagonists themselves. To describe the array of attitudes he observes, Robin constantly makes use of expressions that underline the birds' contingent and changeable character, such as "on other occasions," "one of them may occasionally," "frequently but not always," "sometimes," "this behavior is manifestly rare," "though even more infrequent," "this may happen several times," and so forth. Although Robin strives to give an account of the collective lifestyle peculiar to sedentary buzzards in a corner of England, his writing also reflects an effort to render the divergence between the particular and the regular, two indissociable yet, to a certain extent, irreducible realities. He cannot bring himself to reduce the spectrum of variations pervading these empirical materials. This is the very condition of his understanding of the territorial and social issues brought out by the interactions between birds.

By multiplying points of observation, Robin has managed to identify almost sixty different adult birds over thirty years on the basis of various empirical data concerning their age, sex, territory, nesting sites, as well as their individual characteristics. The observations he has compiled add up to a series of 130 notebooks; in the evening he transfers the more factual and numerical data (the dimensions of the nests, the size of the fledglings, the dates the eggs are laid, etc.) to his computer in order to establish comparisons and record development on spreadsheets. In the latter instance identification does not consist in attributing a species identity to an individual but in recognizing individuals that embody the fact of being a buzzard in local and singular terms.

"The differences can be quite subtle. The buzzards vary so much. And by looking through my telescope at each individual bird, I can create a sketch of them." Sketching a bird is like making its portrait. Robin, who has currently observed about a hundred couples, knows thirty or so of them individually. "I don't know what they all look like, but I know quite a few quite well, which is fascinating." In a notebook reserved for the individual birds he has most frequently observed—his "catalogue of individual buzzard life histories"—he notes down day after day, year after year, everything concerning them. This amounts to compiling their biographies over more than two decades. For each one, he knows its life mate, the date they got together, the duration of their union, the number of chicks they raised, the bird's mobility and territorial attachment, the location of the spots it favors, the date of its disappearance if such is the case (which almost certainly indicates a death even if no body is found), the accidents of everyday life (a wing injured in the course of a fight he has observed), its more or less advanced age, etc.

Each year, on the occasion of sending New Year's greetings, Robin mails out attractive cards containing images of familiar birds about which he has collected new data during the year that has just ended. On the front: a pencil or pen-and-ink drawing of a buzzard; on the back, a description of the corresponding bird with a name he has given it—Rev, Abby, Riv, Honey, Speckled, Spotty, Contrast-Male, Split Wing, Gos, Tertials, Pale Bird, Pip, Cala, etc. He often names birds at the moment he is observing them, taking care not to assign an overly human nickname to them, preferring instead to draw inspiration from a detail that sets them apart in terms of their physical appearance or behavior and functions as a memory aid. Honey: "because his nest was in a birch tree festooned with honeysuckle, quite the sweetest smelling nest I ever visited." Tertials: "because he had a distinctive indent in the trailing edge of its right wing." These names have an operational value rather than a sentimental one, enabling Robin to build up an image of the local society of birds as an aggregate of individuals connected by relationships, partnerships, neighborly relations, or age group.

Thus, one reads on a greeting card produced in November 2015 and dedicated to Abby (who had probably died during that year):

> I first saw Abby in March 2001 when she was in her second-year plumage, indicating that she fledged in 1999 … Abby fledged her first chick in 2004. Then, in 2006, her mate, Indi, was involved with two other females Pip and Cala (mother and daughter) in the adjacent

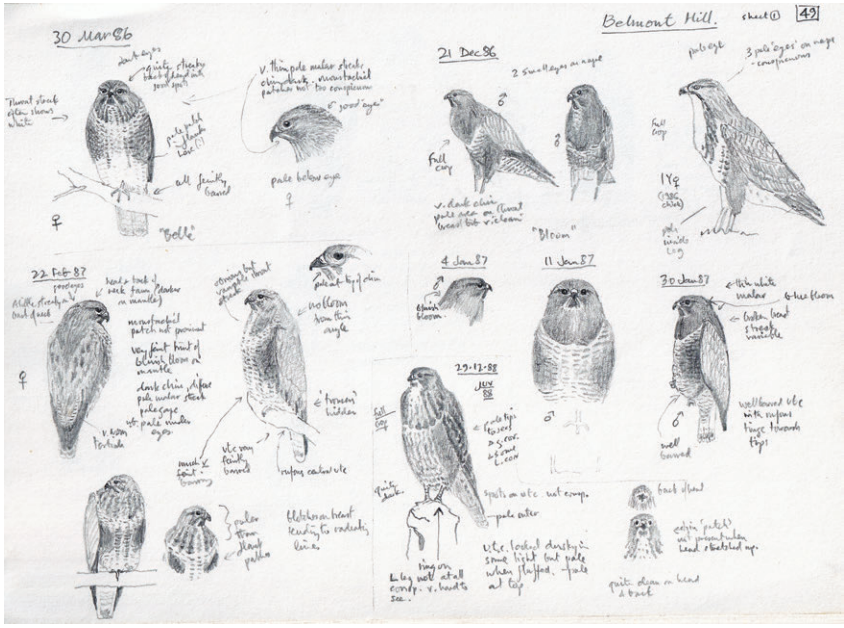

Figure 14. *Buzzards*. Sketches by Robin Prytherch.

territory, Portbury Moor. Cala disappeared at the end of 2008 and the next year Abby fledged her second chick, and Pip fledged two, so the male Indi was still holding the two territories. All changed again in 2011! Both Pip and Indi disappeared when Abby paired with a new male. This year she fledged three chicks, presumably due to the new vigorous male and no "competition." Then, in her final three years, she fledged just single chicks. Confused? The lives of buzzards can be very complicated! My final sighting of Abby was on 7th January 2015 and within a few days a new female appeared. Abby had lived for fifteen and a half years. During her life she fledged just eight chicks—rather low productivity, but not helped by the polygamous behavior of her first mate Indi.

Tracing the life history of birds makes it possible to uncover the peculiarities, the side steps that contrast markedly with the usual "lifestyle" of the species. Alert to separations, disappearances, new pairings, births, modifications of territorial boundaries, Robin records the instances of what he calls "polygamy" and takes an interest in territories shared by a threesome, noting the pervasiveness of kinship in this type

of arrangement (at times a male and two sisters, at other times a male and a mother and daughter, at still other times a couple and a juvenile remaining with its parents longer than usual). He tracks the at times agitated fortunes of the partnerships or territorial readjustments following a death or bitterly fought squabble between adults and young birds old enough to find a mate (who often seek to settle on a territory close to where they were born, sometimes an adjacent territory, two or three years after leaving their parents). The entrenchment of relationships between birds is jotted down and described as a residential system whose general laws are contradicted or altered by an array of contingencies attested by the individual fates of birds. Related to the bird and its life, these contingencies appear so substantial in the descriptions that the bird becomes the actor of its own existence, and the life it leads also allows one to say who it is.

That is why certain birds have a particular appeal for Robin, like the female buzzard who took charge of the eggs of a neighbor when she disappeared and stopped giving any signs of life or another buzzard who never produced fledglings and was somewhat "deranged." "She did try to nest every year and she still … I checked it yesterday, she is still on the nest this year but usually, when it gets time to hatch, suddenly she loses interest and disappears, I mean, she just abandons the nest for this, but I've got this feeling that this year, she might actually fledge a chick but …" Robin is fascinated by the fact that the reproductive success of a species should be dependent to such a degree on the aptitudes and qualities of particular individuals, an occurrence he attributes to psychology or unequally distributed mental capacities.

It is because of this tension between personal aptitudes and the expected or normal behavior of the species that Robin developed a particular interest in a certain male bird after witnessing a scene in which the latter's inventiveness and sense of purpose suddenly became manifest:

> It was in the breeding season, early June. I just picked him up flying over because he called and I looked at him and he was carrying quite a big lump of prey. He was going to go to the nest and saw an intruder. So Rev had this dilemma: I've got the food and I've got to take it to the chicks, I want to get rid of this intruder, what do I do now? Even some humans would have some trouble working that one out. But (ha, ha!) he dropped down onto the tree, cached the food, flew up, chased the bird out of his territory, came back, picked up the prey out of the tree, and flew up to the nest. He has got to be thinking

> about all these things. I've got to take the food, but I have got to see this bloke off … Buzzards and many other birds do cache food, so that is a fairly automatic thing for them to do, but this linking the three together like that, I think, is quite a bright thing for a bird to do. I don't know what some other people would think of that but I have never seen a buzzard do anything like that. That's the only time I've ever seen one do it. Quite often, they just drop the prey and go off, but this male bird, called Rev …

As an eyewitness to phenomena embodied by individuals Robin tries to recreate a functioning society viewed in the routine, everyday life of its members connected by types of relations that he seeks to characterize by remaining attentive to details and individual stories. Sensitive to the malleability of behavior as well as to the more general laws that govern the ways living creatures function, to the personality and inventiveness of birds as well as to the stereotypical behavior of the species, Robin uses unconventional terms to try and describe the tension, which never ceases to amaze and obsess him, between explanations of the causal and determinist type (innate behavior) and attempts at the comprehensive analysis of a specific phenomenological reality that takes into account the motives the observer attributes to the activity the bird experiences (its mental, individual behavior). The social activity is described both as a biologically incorporated way of behaving and as a capacity to improvise and behave oddly—"without purpose." This constantly negotiated tension in Robin's descriptions causes the bird to swing back and forth between being a passive object and an active subject, between being a single embodiment of a species, a living creature driven by innate impulses, and a living being behaving according to variable modalities. Robin experiences the same fluctuations in the field. And it is the exceptions that modulate and sometimes even contradict the laws of the living, for example, in areas like reproduction and competition, that drive him in his work.

One could be tempted at this point to invoke the old dichotomy between behaviorism and the philosophy of mind, that is, on the one hand to reducing behavior to a conditioned response to stimuli, and, on the other, to accounting for a mental activity not unrelated to the concerns of animal psychology, which has made it possible to establish animal intelligence as a legitimate field of study (M. Thomas 2008). But it seems to me more judicious to view Robin's shifting viewpoint as the effect of a will to grasp the behavior of the species by taking into account the

margin of maneuver individuals enjoy within a social group possessing its own rules for functioning, a group viewed not as a preexisting totality but as the product of interacting individuals. This is what fascinates Robin. In all my reading on ornithology I have never encountered such a degree of importance attached to individual birds, at once because they are considered unique and because the society of buzzards itself is a fluctuating, relational grouping of interacting individuals.

Robin's original approach emerges from a kind of methodological individualism that no doubt stems from his no less original manner of presenting birds as full-blown individuals. By making portraits of them, giving them a name, recreating their life history, he inclines toward a form of individualizing that clearly echoes the contemporary tendency to view animals as creative, autonomous subjects. This thoroughly naturalist freedom in regarding birds as acting subjects is nevertheless somehow restrained by an approach intended to account for regularities inasmuch as they are also produced by behavior peculiar to the biology of the species. Even though acknowledging a form of interiority in individuals (intentions, emotions, inventiveness, and a personality), Robin resists personification, and an erasure of the distinction between subject and object.[7]

Birds are viewed as creatures that raise specific issues for understanding them, as one attempts to grasp their particular world by means of immersion. But Robin's observations and descriptions do not lead to the temptation to believe that humans with their cognitive and perceptual means are equipped to understand how other species with their differently organized means understand their environment. This is the recognized limit of an empirical knowledge that can only be a human view of the world. Knowing that birds have up to five times more light-sensitive cells per square millimeter of retina, can see a richer spectrum of colors than we do, and that the position of their eyes, frequently on the side of the head, gives them a much wider field of vision, though one less well adapted to judging distances and relief, does not amount to perceiving the world from their point of view. The other missing piece of the

7. Robin believes that physical, mental, and psychological individual distinctions do not suffice to make a person, for a person is the result of moral and legal conventions which, as Gérard Lenclud writes, assume that a being viewed as a person views himself or herself in turn as a person and manifests that particular form of consciousness known as reflective consciousness. See Lenclud 2009.

naturalist's knowledge, the part that fascinates—for it is in this that the remarkable otherness of the living resides—is their reasons for acting.

Otherness and Immersion

Every description supposes a theory—more often than not, an implicit one—of knowledge and of relation to the object. In Robin's open-air laboratory, nature doesn't offer itself to the eye as a diversified collection of species "differentiated or similar on the basis of their visible surface," to cite François Laplantine. The descriptive order, that is, "the perfect correspondence of the visible with what can be named and of the name with what can be perceived" (Laplantine [1996] 2015: 69–70), yields here to what could be termed the "natural social science" of birds. Description is not limited to the observation of phenomena to be identified and classified; it involves constructing an object and raises the issue of the meaning of what has been observed, it belongs as an activity to interpreting the visible. To a certain extent an intensive, microlocal immersion in the universe of birds reflects what anthropologists call ethnography, specifically with reference to Bronislaw Malinowski's work and possibly also to certain trends in British social anthropology.[8] Robin was not familiar with the introduction outlining ethnographic methods in *Argonauts of the Western Pacific* (Malinowski 1922), nor did he make a difference between our respective empirical practices, and probably would not have considered lumping them together as incongruous.

Robin might indeed have subscribed to a certain number of statements advanced by anthropologists concerning ethnographic methods and descriptions. If we confine ourselves to the definition of fieldwork set out by Daniel Cefaï (2010: 7), Robin's ethological approach rests on direct, personal involvement inasmuch as he observes actions and events as they unfold; he witnesses at first hand scenes of everyday life recast in their full color and relief. He relishes in describing situations, procedures, or interactions observed in situ, and his account conveys something of the sequence and configuration of the experiences of the observed, in this case, birds. The medium of the investigation is a physical experience

8. As George Marcus (2002) writes, "The field really functioned thanks to a single ethnographic paradigm, that of the Malinowskian and Boasian tradition, which was perfected during the last seventy years by the various currents of British and American anthropology."

combined with a prolonged observation and the densest, most accurate notation possible of concrete facts. Contrary to the inventory approach, the ethologist accumulates disparate, commonplace, anecdotal facts and seeks to impart meaning to them by connecting them to one another. He relates composite situations linked to the singularity of the here and now with a certain narrative density far from modeling and globalizing explicative theories. Like the ornithologist Amotz Zahavi, whose work is described in Vinciane Despret's *La Danse du cratérope écaillé: Naissance d'une théorie éthologique*, Robin lets the field observation site speak for itself and proceeds as if he knew nothing about it: "Before going into the field, he does not formulate any explicit hypothesis. At first, he goes out with the sole intention of seeing what will take place there, and only later does he come up with theories and interpretations of what was seen" (Despret [1996] 2021: 141).

Moreover, the observer is not merely a recorder, just as the eye and the field notes are not merely investigative instruments. Contrary to what Michel Foucault says about natural history, the descriptive activity does not endeavor here to eliminate uncertainty and ambiguity, nor to purify description of any evaluation or commentary in order to satisfy the requirements of positivity and neutrality (Foucault 1966). There are no raw facts, only facts to which meanings are ascribed from the outset. As Cefaï writes, "the investigator's body is the organ by which is gathered, articulated, and figured the meaning that will be included in the corpus of data … As a sensitive plate, a surface on which the events and encounters in the field are impressed, it is here that meanings percolate and are distilled which, gradually removed from the unfolding investigation, are subsequently crystallized in the descriptive narrative" (2010: 29).

Little known among historians of British anthropology and viewed as a somewhat marginal figure in the influential professional circles that held sway in England in the 1930s, Tom Harrisson (1911–1976) is, to my knowledge, the only figure to have explicitly claimed a fruitful connection between anthropology and ornithology. The authors who have examined his career and intellectual itinerary all underline the stunning inventiveness of that versatile amateur. Speaking before the Royal Geographical Society, the anthropologist John Layard, a specialist of the New Hebrides, is reputed to have said that Harrisson "left for the New Hebrides as an ornithologist knowing nothing about anthropology and came back knowing more about the natives than most anthropologists" (Edmond 2007: 198). After contributing as a schoolboy to the first bird census of the gray heron (*Ardea cinerea*) and having organized a

national count of the great crested grebe in 1931, which included over 1300 observers, and after briefly studying natural history at Cambridge University and taking part as an ornithologist in expeditions organized by the University of Oxford in Sweden, Malaysia, and the New Hebrides, he spent two years among the Big Namba people on Malekula, Vanuatu. Following this, in 1937 he saw into print a monograph titled *Savage Civilisation*, which met with a certain popular success.

From the standpoint of anthropologists, Harrisson was an amateur. In addition to criticizing him for lacking academic training, numerous doubts were cast on elements of his method, which stemmed directly from his ornithological habits—like the fact of not speaking the language of his interlocutors. According to David Turner, "Harrisson felt that what worked for birds also worked for humans. As he himself put it, 'You do not ask questions to a bird. You don't try to interview it, do you?'" (2011: 110). Harrisson was famous for his reluctance to use a field notebook in the presence of those he was observing. "Making himself as unobtrusive as possible Harrisson could look and learn—in the manner of an ornithologist" (Hinton 2013: 11). Refusing to question people about their values and beliefs went hand in hand with the idea that only a direct observation of their behavior could help one to understand how a society functioned in practical terms. Moreover, this type of thinking reflected the dim view of the concept of culture shared by some British anthropologists, who considered it too abstract and far removed from the concrete events of social life. As Adam Kuper stresses in his history of twentieth-century British anthropology, both A.R. Radcliffe-Brown and Edmund Leach were of the opinion that cultures have no empirical reality, are rather vague abstractions, and that all observations of human behavior in its natural surroundings only reveal that the observed are united by a network of relations (Kuper 2000: 225).

A keen admirer of Malinowski's work, Harrisson had adopted the principle of producing knowledge through immersion and participant observation, the logic of which he pushed quite far. This is what the historian James Hinton has to say about his method:

> Attacking the anthropologist's custom to detach his daily life from the people among whom he is working, to eat his own food, Harrisson insisted that the only reliable route to understanding an alien culture was to immerse oneself in it, to live it … Rather than emphasizing his outsider status by paying native informants to tell their stories and scribbling them down in notebooks, the anthropologist should

> go native: "most of the time I wrote down nothing, being too busy eating, sleeping, drinking *kava*, living hard and good until I became part of the landscape." (Hinton 2013: 11)

Finally, although Harrisson adopted a classical functionalist approach, the narrative form he uses in *Savage Civilisation* departs radically from the writing expected in that type of scholarly production, by alternating use of the omniscient third person with that of the first person intended to express the author's personal point of view or the viewpoint of the indigenous person. "Passages of fairly conventional ethnography modulate into a different kind of explanation from a ventriloquized indigenous viewpoint … Both kinds of information—ethnographic and indigenous—are allowed equivalent authority within the narrative," Rod Edmond writes (2007: 201).

Behind Harrisson's atypical approach lies a hybrid epistemology that in certain respects resembles Robin's method and moreover postulates the existence of a common perspective in the study of humans and the study of birds. To naturalists, humans and birds share ways of behaving and being that can frequently be explained by the satisfaction of psychological and biological needs. Harrisson might well have endorsed Malinowski's assertion that human culture is based on biological needs.[9] When Robin wonders why a bird behaves in this or that way, he is endeavoring to understand the purpose of its behavior. As Despret has demonstrated, a "how" is always accompanied by a "why," and intention is always mixed with cause ([1996] 2021). Placing what things signify and what they are for on an equivalent plane implies a particular view of social (and cultural) phenomena, as well as of animals. Robin is of the opinion that birds, like human beings, are driven by the imperious necessity of satisfying their needs, whether conscious or unconscious, of a physiological, affective, or emotional nature, whether innate or conditioned by their environment. It is this that in his eyes justifies the analogy between humans and birds despite the differences that are generally thought to separate them, mainly due to the fact that birds live a free life whereas humans abide by rules, institutions, and the written laws they create in order to live together.

9. Malinowski intended to found a social anthropology on the basis of a natural history of society. See Kilani 1987.

> Yes, it is totally different from humans, and of course, at that age, you don't realize the fact that these creatures lead totally free lives. Their behavior is governed innately. And you don't think of yourself as another animal, behaving in the same way. But I think human beings do, they just don't realize it. This so-called intelligence is just a shield (ha, ha, ha!) they try to hide behind.

This shield or vantage that humans fashion to represent themselves to themselves and to lend meaning to their actions doesn't shelter them from biological needs or from the functions they fulfill without knowing it. On the other hand, birds, like humans, do not simply obey the dictates of definite, imposed plans that are applied mechanically. They seize opportunities; they reproduce a model that they shape gradually and according to circumstance. Animals are not fashioned mechanically. They also embody ways of acting forged by experience, even if they do not have a preconceived plan in mind.

The issue of differences in behavior between species or within the same species interests birdwatchers as, although governed by natural needs, living beings satisfy them not only differently but also often for obscure reasons. The well-known English ornithologist Tim Birkhead puts it nicely:

> Contrary to Darwin's account of sexual selection, which stated that courtship displays had evolved to assist males and females in acquiring a partner, Huxley noted that the displays in his grebes occurred after the pair was established, leaving the question of what these displays … were for. A Darwinian interpretation required that they have a function. Huxley concluded that displays served to cement the bond between partners. But in one sense it is a cop-out. Saying that a particular behaviour helps to maintain the pair bond is merely another way of saying we have no real idea what is it for. (Birkhead 2010: 214)

The exoticism of other creatures stems from the fact that the reasons for their behavior are ambiguous and our perception of them is always a hypothesis. "Obviously both birds were enemies; however, as there were no obvious prize food sources and the area was not a known or suitable breeding ground, I was puzzled as to the reason. Maybe the birds just enjoyed a punch-up? … So I suppose, the mystery must remain," Philip Radford writes (2008: 63). Whether one is certain one has the right

interpretation or whether one has doubts about it, or whether one has given up entirely coming up with an interpretation, what one has seen remains opaque.

The functionalist rationale does not explain everything, but above all it does not exhaust the meaning of differences which appear to have no purpose in certain respects. Whether species are territorial, competitive, or have common interests, each acts in its own way. In order to conceive of these differences and represent them to themselves, birdwatchers do not call on the concept of "culture" but have in the back of their mind the idea that all animal species form singular life communities that can be understood in "zoographic" terms by undertaking to describe the variability of modes of life and manners of being. While these differences have a biological basis, they appear to the observer as possible forms of existence whose singularity can be reproduced. Species with their cognitive equipment—each acts according to its capacities and investigates new potentialities within the framework of limits set by nature—form singular, localized realms which are reproduced narratively as though they were "cultural differences."

In this case *culture* should not be understood as tradition, as symbolization, or as a system of thought and values in opposition to what is supposed to pertain to the natural world. It is instead a kind of clothing or particular ordering of individual and collective ways of behaving in the context of a diversely shared "naturality." Like the British anthropologists who make a clear distinction between society (social organization) and culture (symbolic representations), naturalists see in the different expressions of nature variable manners of existing and being that could be described as "exotic customs."

The tenor of this statement becomes clearer when one reads the historian Joe Moran, who is also a birdwatcher and the author of an article relating his personal experience under the title "Off Piste: An Eye for the Birds":

> As a historian of the quotidian, I've long been interested in discovering the exotic in the ordinary, and it can't be a coincidence that Tom Harrisson, founder of the social research organization "Mass Organization"[10] and one of the great anthropologists of the everyday,

10. This research program, which ran from 1937 to the 1960s, consisted in recording data about the daily life of British subjects. Some five hundred volunteers participated in it.

> started out as a birdwatcher … Birds live at the edge of my life, too. I like the idea of them co-existing with humans, slotting into our routines, leading parallel but autonomous lives—like the hawks who hover above the unpesticided motorway verges looking for rodents, or the collared doves who use television aerials as convenient perches.[11]

Focusing on those beings that live in a parallel and autonomous manner in a thoroughly human environment which they use for their own purposes and according to their own logic amounts to discerning the exoticism of a visible otherness there for the seeing, of making the far-off appear suddenly close-up, of spotting strangeness in the familiar. We marvel at living creatures because they go about their daily lives busily like humans but in their own fashion, which can be compared and contrasted to ours; they have habits, dietary preferences, manners of seducing, matrimonial customs, manners of caring for their offspring, ways of moving, specific modalities of relating, a certain sense of home territory, a preferred habitat and preferred building techniques, locations where they thrive and others they avoid.

The sense of exoticism springs partly from an effective alignment with the existence of humans that brings out differences and similarities by analogy. In naturalist accounts humans are always the more or less invisible protagonists of a neighborly encounter. When Patrick Barkham describes the small tortoiseshell (*Aglais urticae*) as the "labrador of the butterfly kingdom" because of its closeness to humans, he casts their behavior in common terms of human activity: "the male needs to have his wits about him because the female leads him on a merry dance before agreeing to mate; he patiently waits behind the object of his desire all afternoon, fending off other males, and stroking her hindwings with his antenna" (2010: 41). In texts where personal experience is central, comparisons between humans and nonhumans can be particularly daring, as in the case of the following account by Andrew Fallan: "With their big beady eyes, stone-curlews [*Burhinidae* family] are quite strange-looking, and they also appear somewhat delicate and graceful. If they had human characteristics, one could almost imagine them being rather eccentric, and not a little snobbish, perhaps wearing a monocle, and looking down their beaks at all the ever so vulgar 'ordinary birds' around them" (Fallan

11. Joe Moran, internet article on the World University Rankings site, March 18, 2010, https://www.timeshighereducation.com/features/off-piste/off-piste-an-eye-for-the-birds/410844.article.

2011: 28). Serious naturalists like Robin would never indulge in this kind of anthropomorphizing which does not serve the understanding of what living creatures are and do. And yet they would smile at it, amused at the game of mirrors that conveys in its fashion the alignments and gaps between worlds.

Parting the Curtain

Difficulties in translation that occur when passing from one human language to another are well known. In the absence of words to be exchanged, there remains immersion, moreover without any interaction, or almost. Unlike ethologists, who do not forego experimental methods to test their explanatory models and subject animals to situations and even interact with them, field ornithologists keep a distance and are as unobtrusive witnesses as possible to the scenes unfolding without them. Theirs is mere coexistence and an immersion without any intrusion, as Harrisson recommended. The observed are next door.

Indeed, observing means knowing how to make one's presence forgotten or how to respect the distance that diverse animals require for a peaceful copresence to be possible. The distance is greater for birds than for butterflies, and even greater for buzzards than for robins. Robin knows full well where to stop: the frontier begins at the point beyond which buzzards commence to interact actively with him.

> You can see that they are alarmed and I might be standing next to the car. If I get in the car, it usually quietens them down because they can't see the whole of me. But they are not happy until I drive away. I drive to the edge of the territory and look back and you can see they have relaxed. If a buzzard calls at me, it's only in a sense mobbing me, it's calling at me saying go.

The "moments of conversation," as Robin calls them, exist only to prompt him to put a stop to these interactions. When he's far enough away, he's still in the birds' visual field; they even recognize him, he says, but they can ignore him and, as an observer, he can take an interest in them. This is the ideal situation. There's no need for him to conceal himself or to alter his appearance; he's there, tolerated for what he is, a being among others that the buzzards keep an eye on and with whom they establish minimal relations, merely watching a human who signals nothing.

In general, as is the case in birdwatching, even the issue of watching does not exist, for in most cases the observer's body is undetectable, either because it cannot be seen by the birds or because it does not have the appearance of what it is—an unusually tall being. This last case only occurs for animals that are thought to have the capacity to look (and not just to see), that is to say, vertebrates. The techniques for disappearing and for avoidance are of two orders: either using a blind in which the observer can hide and look through an aperture without being seen, or transforming one's own appearance to look like an observation post, usually reserved for photographing. Immersion or penetration in the animal's territory works by subtracting the observer: from the bird's point of view, the watcher must be physically insignificant, concealed, part of the vegetation, scattered or diluted in the environment, without a face or a definite outline (Manceron 2015a). "The bird on a branch looking at you is looking at your eyes to see what you are up to. The peak of the baseball cap provides the shield," Robin says. The observer, who is neither detectable nor recognizable, is immersed; his or her physical presence is subtracted at the same time that paradoxically he or she intensifies the sense of being present in a "textile skin" or blind (like Robin in his car).

Furthermore, invisibility paradoxically leads to a denser perception of space. To the specular question "Who are you?" the observer of a distant being may also increase the possibility of immersion by means of a magnifying apparatus. It is as if the living being seen through a lens were close at hand, revealing the details of its anatomy, its coat, its movements (if any) to the scrutiny of the fascinated observer. This gives rise to a kind of scopic dazzlement. As Robin puts it, "When following my buzzards, my mind is immediately trapped into them, which is tremendous." The mind and the senses are captivated as well as "trapped into" the very texture of the beings observed. Something like this happens when an art lover gazes into a picture. Alfred Gell (1998) says that the art lover is "trapped" by forms of intention and acts that are difficult to understand, while naturalists feel wonder at details of morphology or behavior that function as sense attractors impossible to ignore. Naturalists often speak of being fascinated and absorbed by the silhouettes, colors, and physical shapes of the creatures they admire, captivated by "the delicacy and minuteness of the patterns—the bands, stripes, and spots—on butterfly wings; feathers and their extraordinary features: not only the colors and patterns, but also shimmering, muted, velvety, iridescent effects," to borrow Bertrand Prévost's terms (2009). This descent into the texture of a living creature, traversed by vital processes and concealed rationales,

involves the observer mentally in the things he or she observes, which are always characterized by a certain degree of cognitive opacity. For naturalists, immersion stems from that subjective, sensorial involvement, which opens the eyes and the mind to other ways of being and allows the observers to feel that they in turn are part of the natural world. When Robin observes "his" birds, he feels "part of nature, as a species," a "piece of life like them."

This gaze, transformed by the experience of observation through immersion, is a distinctive trait of naturalist knowledge. Like anthropologists, they can claim to conduct a study *with* rather than a study *of,* insofar as they take part at least physically and mentally in the lives of other living beings. However, unlike anthropologists, they are not immersed in an environment of collective activities nor are they able to see things the way they are seen by those they observe. Furthermore, contact with the observed never takes the form of a dialogue or of an interaction in which the protagonists "speak" in turn in order to explain the meaning of things to each other. Immersion is here a kind of paradoxical relational encounter. It fills the need to enter into contact with other living beings but is not associated with any kind of interaction or expectation of reciprocity. Naturalists experience the thrill of inclusion but remain on the threshold of a potential participation. They approach the viewpoint of the other while encountering significant resistance. As Robin puts it,

> It is hard to imagine where they are looking, what they are seeing when you are observing them. I have been up in a helicopter, and I was looking down at this country which looks flat and yet they are interpreting it in different ways. And they are flying, they just plunge in a wood and gosh, it's surprising they haven't chopped their head off hitting a branch, but they know what they are doing.

"One tries intensely to merge with the 'real other'—but one never succeeds," Lorraine Daston and Gregg Mitman write (2005: 7). Birders play with types of anthropomorphic or analogical alignment; they sometimes set up several intensive methods of observation in the same spot, yet this approach does not consist in a rapt, fusional closeness or an identification, nor in seeking the terms of a social exchange. To immerse oneself *in* amounts to being *with* or being *among* while remaining to one side and keeping one's distance. As Robin says, "it is like opening the curtain a little." This means that what we are talking about is an experience of branching out and decentering that makes it possible to

approach another point of view without ever being able to attain it. The singularity of behavior is invariably a source of astonishment and endless questions, for something always resists understanding and experiencing … One is never in the skin of another creature.

The analogy between Robin's zoographic approach and that practiced by ethnographers would doubtless not be as obvious in France. Indeed, the contiguity of natural history and social anthropology is more manifest on the English side of the Channel.[12] In Britain, both natural history and social anthropology are strongly anchored to an empirical tradition that concentrates on exact data and precise facts, and is above all based on the idea that there is no knowledge not derived from experience. The wariness with which some British anthropologists tend to view the concept of culture and the fact that some of them have long distanced themselves from it is no doubt a consequence of this. The web of differences stems less from distinctions in their manner of representing the world, in ideas, values, and symbols, than in extremely concrete, empirically observable social relations, for culture is but a garment that humans don in order to impart meaning to what they do.

For Robin, species—particularly avian ones—distinguish themselves from one another by social organizational principles that are peculiar to them against a background of natural determinants as well as negotiated, localized relations. Social form is the leading operative criterion in a context of a diversely shared nature. Buzzards' individual margin of maneuver and their intentionality, as Robin sees it, the importance attached to their interactional games in the wild, and the fact that their behavior is sometimes inexplicable and seemingly without purpose means that Robin and his like are relegated to the periphery of preoccupation with theories of natural selection. Robin isn't interested in the long view and its evolution. The variations that intrigue him aren't linked to the persistence of similarities within the same species or to that species' transformation over several generations, but solely to the individuals, circumstances, types of behavior, and configurations that are revealed in moments of observation.

12. Some naturalists, like Darwin and Wallace, were proto-ethnographers, while some anthropologists were also naturalists in their field of research, such as Ralph Bulmer, who began by studying zoology then switched to anthropology while studying at the University of Cambridge. Bulmer is known mainly for his important contributions to ethnobiology.

From this standpoint Robin places himself on an infralevel, the level that Darwin considered to be the motor of evolution and the existence of species, in other words, differences in the capacity of each individual within a species as well as individual deaths attributable to random circumstances and to limits set by the milieu (David and Lecointre 2021). But independently of the issues of the adequacy of forms, behaviors, and functions so dear to Darwin, the consistency given to individual histories, to interactions, to the messages and signals that buzzards exchange are the wellspring of Robin's questions. Buzzards in their natural environment are beings to investigate ethographically. It is a matter of bringing out singular ways of being and doing that cannot be explained by selection, reproduction, or natural adaptation but in the light of variable interactional modes, behaviors, habits, inclinations, repertoires of communication that in many ways seem mysterious, in that they involve neither cost nor benefits nor self-interest nor the logic of survival and perpetuation.

Robin's approach is freer and is in effect a sensitive ethology, which recalls what Carla Hustak and Natasha Myers write about Darwin's experiments with the interaction between orchids and insects, in particular their description of a less well-known aspect of his work, namely his observation and close scrutiny of the complexity of the inextricable network of affinities connecting living beings (2020). Like all of Darwin's heirs, Robin constantly feels the tension underlying his observations, specifically the bond and kinship with beings that, as Estelle Zhongh Mengual judiciously writes, "always manifest sameness with us (of origin, of individual organism, of existential problems)," while at the same time being radically other. And, she adds, "it is this constitutive paradox that makes biological kinship an extraordinary concept indeed," one able to explain the deep source of naturalist awe (2021: 228).

Figure 15. *Vanishing*. Photo by Vanessa Manceron.

CHAPTER 7

Vanishing

With glistening eyes, swallowing her distress, and brushing away a fleeting look of sadness from her face, Anne, a botanist, talks of disappearing or declining local plant species. I was struck by her emotion. Suddenly the erosion of the living, which conservationists are constantly wringing their hands about, took on a different hue for me. Although few and far between, moments when it is said that the English countryside is being depleted and losing its nonhuman population are a breach in the wall of indifference through which emotion surges, giving one a glimpse of the weight and importance of what is slipping away. To the enthusiasm and seriousness with which naturalist investigations are carried out, we must therefore add a third dimension: sadness.

Naturalists are aware that the passerine Cirl bunting (*Emberiza cirlus*) is at present extinct in Somerset. The last sighting of a specimen there was in 2001; a person who wants to see it on English soil before it vanishes entirely must go to South Devon. The whinchat (*Saxicola rubetra*), a migratory passerine, is no longer present in the marshes of the Somerset Levels and Moors, whereas 153 pairs were still nesting there in 1977. The English sundew (*Drosera anglica*), a carnivorous plant growing in peaty environments, has also vanished from the Blackdown Hills; not a single specimen is to be found in the county. Two species of butterfly, the pearl-bordered fritillary (*Boloria euphrosyne*) and the high brown fritillary (*Fabriciana adippe*), can no longer be seen locally ("no longer breed, no longer seen"). Naturalists are aware, for having read about it, that the

same declines and losses are being noticed elsewhere. Some taxonomic families—frogs and other amphibians—are becoming more vulnerable, while the number of species is falling drastically. Certain naturalists believe that the disappearance of as many as one to two thirds of the species known at present is probably underway. Others announce that 16,928 still-existing species will have vanished in the near future (Myers and Knoll 2001: 5389; see also Sodikoff 2012). Finally, as naturalists know, for having observed it personally or having listened to the memories of older relatives, the span of a man's life is enough for such disappearances to be noticeable. To have seen and no longer to see. The dire prospect of a massive generalized planetary decline is becoming a reality.

Vanish: to cease to exist and to be lost from sight, to be extinct or to become invisible. To no longer be and to no longer be seen are two modes of absence. Charged with uncertainty, discriminating between them is a constant concern for naturalists involved in inventorying biodiversity. Absence is a sign, a signal, but for what reality? Does it signify radical extinction with no hope of resurgence, a new spatial distribution, a displacement of living beings, or a lack of information? What does this invisibility entail; what do these absences mean? Unobtrusive beings whose presence eludes perception? Beings capable of resurgence, of reappearing locally, of moving from place to place? Or beings lost forever in a particular locality, in the British Isles, the planet?

For those who consider essential the patient work of inventorying a plural world, the art of being attentive to things that elude one, to the things not seen, the attachments to now-familiar living beings—what is a world that is increasingly depopulated? If "the winds of the Anthropocene carry ghosts—the vestiges and signs of past ways of life still charged in the present" (Gan et al. 2017: 1)—the questions remain: how are these *ghosts* to be described, what histories do they convey to naturalists, how are they to be known and recognized, made to speak and summoned?

Ongoing Extinctions

Where is one to find other forms of expression for Anne's affliction? The naturalists I am acquainted with are not militants in the ranks of the Extinction Rebellion movement born in England in 2018.[1] They do

1. Extinction Rebellion militates for the political recognition of the gravity and urgency of the ecological crisis and for a change in capitalist modes

not march on the British Parliament to urge its members to address the urgency of action on climate change and biodiversity loss. They do not participate in or follow closely, or distantly, the more or less spontaneous events organized every November 30th since 2016 in Brighton, Oxford, or London on the occasion of Remembrance Day for Lost Species.[2] And yet they speak of commitment. On rereading my field notes I find that spontaneous mentions of the erosion of living species are fairly rare. And yet, in the last few decades—with a notable acceleration in the wake of the idea of, and term for, the Anthropocene in the second decade of the twenty-first century—there is no lack of terms for conceiving and describing the different ways of "living in a damaged world."[3] And yet, naturalists are deeply affected and still remember the shock they felt on reading Rachel Carson's *Silent Spring* ([1962] 2022).[4]

In a time of large-scale planetary upheavals, stories of laying waste and devastation, the head-spinning thought of humanity as a telluric, geological force causing cascading catastrophes (toxic chemical contamination, land mines, nuclear pollution, droughts, waste, irreversible destruction), the naturalists I encountered go about their business discreetly. Neither resigned nor active protesters invoking an idyllic or calamitous past or a future of apocalypse or salvation, they experience the dismay and affliction of having to deal with loss; they fight in their own way. The facts are not new. Naturalists have long been the first to know about species extinctions even if the public is not always aware of them.[5]

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of production: an immediate reduction of greenhouse emissions through a planned energy decrease and an immediate stop to the destruction of terrestrial and ocean ecosystems.

2. This event, which appeared in England in 2014, echoes the name and date of the war dead of the First World War. Rituals or demonstrations organized by artists, militants, teachers, etc., commemorate extinct species (with street performances, processions, artworks).
3. Recalling the 2019 special issue of the French review *Critique*, "Vivre dans un monde abîmé."
4. This book, which documents the use of pesticides leading to high mortality rates among animals, particularly birds and humans, played a leading role in the emergence of political ecology.
5. The following is from the writer and beekeeper at Oxford, Helen Jukes, who observed on *The Dark Mountain Project,* an ecological manifesto website: "I wonder about those amateur entomologists … Did they have a sense, as they tipped the alcohol-soaked specimens onto the weighing

As Mark V. Barrow reminds us, "Naturalists—individuals who pursued natural history either as a hobby or a profession—not only proved central to the discovery of extinction but were also the earliest groups to condemn the careless destruction of plants and wildlife going on around them" (2009: 8).

The idea of extinction itself finally came to be accepted in the first decades of the nineteenth century in European and American naturalist circles when, following a comparative study of fossils and after endless discussions and denials throughout the eighteenth century, the unthinkable became a certainty.[6] Bones, teeth, shells, carapaces, mineralized microorganisms found in sediments and other geological substrata were not mineral curiosities, not proof of spontaneous generations of living beings (Bernard Palissy), not traces of the gradual transformation of one form of life into another (Lamarck)[7] through hybridization (Linnaeus) or degeneration (Buffon). They were not the remains of species as yet unknown hidden in the depths of oceans or other still unexplored parts of the world, or evidence of the perfection and superabundance of the divine edifice.[8] As Julien Delord writes, "thanks to Fontenelle, de Maillet, Buffon, Diderot, and others, the image of a motionless, mechanistic, hierarchical, immutable world determined by the constraints of a theology of plenitude turned into a complex picture of species succeeding each other,

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scales, of the extent of the pattern unfolding? Did they sense disaster? Or was the change too small, too slight to notice week-to-week?" Helen Jukes, "Malaise Traps," November 27, 2017, https://dark-mountain.net/malaise-traps/.

6. For the history of the notion of extinction see Rudwick 1976, Grimoult 2014.

7. Jean-Baptiste de Lamarck's (1744–1829) transformation theory does not exclude the possibility of destructive extinction, but his nominalist (non-essentialist) concept of species and his recourse to the concept of analogous species led him to believe that nothing allows one to state with certainty that a species is ever really lost or annihilated, for, though its form has disappeared, it has simply transformed itself.

8. John Ray (1627–1705) held that the order and complexity of nature could not have emerged solely from nature but rested on the then fairly current notion of Intelligent Design to describe the perfection of the divine edifice. A reluctance to accept the possibility of extinction led Ray to question the organic origin of fossils and also to speculate that the living examples of the specimens held had not yet been discovered or remained hidden in the depth of oceans. See Ray 1691.

emerging, disappearing, transforming themselves" (2003: 182). Then, in the wake of Johann Friedrich Blumenbach and above all Georges Cuvier, fossils, in the effervescence of comparative anatomy, zoology, and geology, finally came to be viewed as the remains and impressions of lost, irremediably extinguished, forms of life, either due to the brutal irruption of catastrophic events capable of wiping out a vast range of fauna or due to repeated human onslaughts resulting in the disappearance of a type or lineage, a biological and classificatory annihilation.[9]

In this new, imperfect, unstable, evolving world subject to numerous vicissitudes, several particularly famous classes of beings, including the dodo, the New Zealand moa, and the genus of mammoths, were thus declared extinct. The recent visibility of these extinctions required the cooperation of a broad array of naturalists, amateur and professional, and collectors specialized in anatomy, zoology, paleontology—all connected through an intense exchange of letters—busily participating in new excavations, collecting bones, fur, teeth, skins, and mineralized organisms, which were accumulated, swapped, compared, and deposited in natural history museums. From the sediments and geological strata that came to be regarded as the archives and temporal benchmarks of a long history, certain animal species were exhumed which were no longer found in the contemporary world. They suddenly appeared in the present, materialized as skeletons constructed from various fragments assembled by means of a laborious and painstaking morphological and anatomic process, failing which the species would never have seen the light of day, would not even be remembered or missed, would simply never have existed.

Demonstrating the extinction of recently disappeared species required lengthy investigative work, resorting to the written or oral testimonies of observers in the field, travelers, settlers, hunters, or naturalists who had seen, attested to their presence and, no longer seeing the species in question, could vouch for their absence. In the circumscribed space of islands or in the case of local species, cross-referencing on-the-spot observations rendered the event manifest, allowed it to be localized and fleshed out with a greater degree of certainty—as was the case for a large

9. Cuvier (1769–1832) studied different species of mastodon quite distinct from African or Asian elephants (including the large American mastodon from Ohio), all of them definitely extinct. He attributed their disappearance to geological catastrophes periodically affecting some regions of the globe. See Cuvier 1812.

number of exotic mammals and birds. Above all, the disappearance of these species has been attributed either to the constant slow, gradual transformations that have affected the globe's surface throughout history—climate change; the increase, decrease, or relocation of species; mountains thrusting upward or dwindling; oceans expanding or contracting; isthmuses between continents rising up or sinking away—or to human actions held responsible for accelerating or confirming a decline in the number of species (Lyell 1832). As the British zoologist and paleontologist Richard Owen (1804–1892) wrote already in 1842, "we can … associate with the insular condition of Britain the subsequent progress of extirpation through the agency of Man, by which the smaller kind of Bear and the Wolf have ceased to exist with us" (1846: 34).

All together, examining fossils, accumulating reports, and the determination to inventory the globe's fauna and flora have contributed to placing the study of the geographic distribution of plant and animal species at the center of systems for knowing nature, and led to thinking about the high degree of vulnerability of native species in contact with human activities (predation, the introduction of new species, the destruction of habitats, the introduction of disease, etc.).[10] "Dead as a dodo" entered everyday language as an iconic expression of the devastating effect of human actions:[11] from the extinction of the passenger pigeon (*Ectopistes migratorius*), which was hunted to extinction in North America owing to its destruction of crops and whose decline became apparent around 1870 (the last representative died in the Cincinnati Zoo in 1914), to the great auk (*Alca impennis*), which vanished in the 1850s having been progressively hunted to extinction by sailors off the coast of Newfoundland and Iceland. These exterminations were followed by those of the Bali tiger (*Panthera tigris balica*), whose last representative was shot in 1937, and

10. While early nineteenth-century scientists addressed the issues of the evolution of the number of species observable in the circumscribed space of islands (migration, deforestation, predation, the proximity of continents, the effects of colonial settlement, etc.), Alexander von Humboldt and Augustin Pyramus de Candolle laid out the first steps for studying the geographical distribution of plant species, which became an all-important element in the birth of ecology at the turn of the nineteenth to twentieth centuries.

11. At the end of the nineteenth century, the extinction of the dodo became emblematic of human greed. It was presented as such in various bestiaries in the wake of the publication of Lewis Caroll's *Alice's Adventures in Wonderland*.

the Tasmanian wolf (*Thylacinus cynocephalus*), which disappeared in 1936 under the impact of colonization, the introduction of dogs, hunting, etc.

The list is long and continues to grow even today as the means of giving visibility to extinctions have increased together with the participation of naturalists. Familiar with the idea and the facts of extinction, the latter have been involved for a long time. Yet they also know that declaring a species extinct or endangered is no easy matter, that drawing up its history and helping make it known requires deploying and connecting a considerable number of detailed observations scattered in time and space. As Ursula K. Heise stresses, "the mourning for individual species cannot adequately capture the magnitude of a crisis that affects thousands of species and the entire globe" (2016: 55). Thus, removed from both heroic and defeatist narratives about the sinking or foundering of species and populations, English naturalists work ceaselessly and actively, testifying to what they see on their own scale and in keeping with their own capacities. And yet, at the same time, they aspire and in so doing know that they are participating in a "panoptic dream" of a monitored nature whose fluctuations are kept under observation in databases on the scale of and according to the capacities of institutions (see Bowker 2000: 645).

What Is Going On?

While to see clearly is to know, yet another ingredient is necessary for a person to feel like a naturalist, and that is contributing. Like Liz and Robin, one can undertake an intensive and comprehensive study of a particular botanic territory or avian society, and transmit what one learns by writing articles or reports, or lecturing—with the help of PowerPoint. Some naturalists limit themselves to this mode of participation, establishing a clear boundary between naturalist knowledge and knowledge applied to conservation or the making of inventories. Such is the case of the entomologist William, for whom knowing about is not the same as protecting, even though he is terribly distressed at the progressive disappearance of insects, but also many birds formerly so common in the Somerset Moors. Despite the actions of trusts, wildlife reserves, and Natural England, waders, sea birds, and hibernating fowl are not being "brought back," as William remarks. For him, being a committed naturalist means taking part in annual field trips with insect specialists he has known for two decades, and especially becoming an expert on the insects causing oak galls, about which he has written a 300-page manuscript

summing up existing knowledge on the subject to which he has added his own observations.[12]

Yet as often as not, in addition to field observation activities and beyond the production of specialized knowledge, the naturalist participates using what she or he already knows: in this case seeing clearly means bearing witness and making known. When Robin is not keeping track of his buzzards, he lists the raptors he happens to spot during his outings in the surrounding countryside and once a month sends his notes to the Bristol Ornithological Club to be added to the annual reports on the number of birds sighted locally. In fact, he began concentrating on common buzzards after reading one of these reports and thinking to himself: "They haven't got the right amount of information because I'm sure I am seeing more buzzards than the impression you get from reading the annual report." He therefore suggested the Club launch a program to count common buzzards, sparrowhawks (genus *Accipiter*), and kestrels (genus *Falco*) (the three main species of birds of prey present in the region) to be conducted for five years on the former territory of Avon County. And indeed the number of buzzards, almost eighty pairs spotted each year by members of the Club, exceeded what had been reported. "They were there but not in the text." It took dozens of eyes riveted on the same species over a relatively long period to get the creatures sighted in nature to coincide with the creatures described on paper. Once encapsulated in the spheres of textuality and of human sociality, the invisible beings took on a new existence in addition to the one they enjoyed more or less secretly in woods or over meadows.

Every year at the beginning of the year, Robin receives a card from the British Trust for Ornithology reminding him (as if he could forget!) that the large "Heronries Census" program, of which he is an active member, is continuing. Regarding the gray heron (*Ardea cinerea*), everything began in 1928 when the ornithologist Edward Max Nicholson (the founder with Charles Sutherland Elton of the Oxford University Exploration Club) deemed that this bird's characteristics made it an ideal object for a new ecological and participatory science as yet to be created.[13] The gray

12. Caused by parasitic insects, oak galls are growths on the trunks, stems, leaves, and fruit of many species of oaks.

13. Founded in 1927, the club still exists. Its brief is to support, advise, and to supervise projects of foreign expeditions for Oxford students, such as inventorying the fauna and flora of Papua New Guinea, recording traditional music, or contributing to cooperative projects. Tom Harrison was a member, as was the explorer and writer Wilfred Thesiger.

heron presented many advantages for scientists interested in counting individuals present in Great Britain, identifying their location, spatial distribution, and evolving population over a long period. As Nicholson wrote at the time, "The want of satisfactory data regarding the number of animals in relation to space and time is an obstacle of which biology is becoming acutely aware … The small number of observers who are available for any such task, and the obvious difficulties in practice, make it essential at this stage for the object of any national census to be large, conspicuous and easily identified" (1929: 270).

The early twentieth century was a particularly ebullient period. The historian David Elliston Allen calls it a "kettle on the boil" (Allen 1978) to describe the epistemological turn from the notion of the inventory as a collection or descriptive catalogue of specimens to the study of relationships between organisms "encapsulated in terms of the food cycle, size, niche, and pyramids of numbers" (Sheail 1987: 86). Alexander M. Carr-Saunders, Charles Elton, and Julian Huxley were among the representatives of this pioneering generation trained at Oxford University; they contributed to the birth of animal ecology, scavenging from what they regarded as "an obsolete tradition of natural history by synthesizing its research in a code of ecological relationships" (Anker 2001: 27). The emerging science of ecology wanted to break with the "sentimentalism" of those amateur naturalists and the broad tradition of spotting as many species as possible or the intensive quest for rare or remarkable species. Focusing on fluctuations of populations, migratory movements, animal and plant associations, or relationships of dependence or complementarity between species implied making use of the concepts of population and its spatial corollary, distribution (see Manceron 2015b). Yet establishing pyramids of numbers on a vast scale, records of population in environments conceived as open-air laboratories, did not mean excluding naturalists but instead required mobilizing a great number of them.[14]

Moreover, the same period witnessed a formalizing and generalizing of the anxieties produced by the disappearance of species along with the growing influence of activists working for the protection of living beings, especially birds, with a view to curtailing cruelty and predation.[15]

14. In 1907 the creation of the *British Birds* magazine amounted to a veritable manifesto for the participation of birdwatchers in an exhaustive program of inventorying birds in every region of England.

15. The British Parliament voted in the Wild Bird Protection Act in 1880. In 1889 the Society for the Protection of Birds was founded with the aim of

As a result the scientific community was confronted with a dilemma arising from the new injunction to gather information concerning birds without killing them—"naming without a gun," to borrow the expression coined by Mark V. Barrow (1998: 157). Specimen collecting or sight recording? There thus arose a debate in England on the accuracy of a science that dispensed with the certainty of studying and identifying dead specimens; on the real impact of naturalist activities on the future of birds; on the distinction to be drawn between collectors, among whom specimens served as a veritable currency, and scientists, who depended on a rational gathering of facts; or on the lines to be drawn between ornamental stuffed birds, hunting trophies, and specimens destined for the museum. Out of all this commotion gradually emerged the idea that it would not only be possible but desirable for ornithology give up collecting bird skins.

The stage was now set for specialists of natural history, lovers of nature, or simply curious individuals prompted by concern about the future of species, to fill a new spot among larger, better organized social groups that were more aware of themselves and more inclined to identify and keep records of the living creatures they glimpsed, while emphasizing field work and its new preferred instrument, the human eye. This trend was facilitated by the involvement of ornithologists like Bernard William Tucker and Edward Max Nicholson, who gave themselves over to the delights of birdwatching, were active in naturalist societies,[16] and played a major role in the emergence of conservation bodies such as the British Trust for Ornithology (BTO), founded in 1933.

Tucker and Nicholson, go-betweens in a new polarity and collaboration between amateurs and professionals as well as between ecology and conservation,[17] also famously promoted the first Bird Census.[18] Initially the project's aim to survey wildlife populations was not intended

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putting a stop to the practice of including plumage in fashions. It comprised a majority of women and a few influential ornithologists, such as William Henry Hudson, whose book *Lost British Birds* (1894) was one of the first attempts to draw up a kind of red list of endangered species. See Chansigaud 2012a.

16. The Oxford Ornithological Society, the Cambridge Bird Club.
17. See Chansigaud 2012b, which describes the concomitant emergence of conservation and scientific ecology.
18. In 1861, John Wolley had dreamt of carrying out a "census of our birds" on a national scale, but at the time all he had at his disposal to plot the spatial

to assess the danger of extinction or to justify conservation measures. However, building up information and archives using the solidity of statistics was not unrelated to programs for administering populations or giving a voice to individuals who had a strong interest in protecting species. The trusts clearly understood this when they appropriated the tools for counting and mapping species and populations. And they have proliferated spectacularly since the 1970s, providing the public with a measurable account of the environment's state of health.

Thus, with its familiar, easily recognized bearing and presence throughout the British territory, the heron, a model of the counting and mapping of a bird population, saw itself propelled to the junction of several converging approaches at the dawn of a major transformation of natural history, at the forefront of which the avian world offered a particularly rich field for experimentation. Desirable birds people cared about, numerous naturalists, various modes of winged existence all lent themselves to the visual game of counting. The shift from the specimen representing a totality or the category to which it belongs, physically culled for collection and described in detail in illustrated catalogues, to the individual belonging to a species, listed as a seen presence in its environment, alters the very consistency of the being in question. The logic of the ecological investigation takes over at this point, involving the apprehension of "beings which are the object of one's attention *in media res*, in their natural milieu, at the precise and precarious moment of their appearance," as Romain Bertrand writes (2019: 221).

However, we need to follow the heron itself to appreciate fully the tenor and thickness of this development. Familiar to one and all, protected since 1981, with a population that has increased markedly since the 1970s, the heron would seem to have little to offer a seasoned "birder" like Robin. The bird is neither a challenge for identification nor is it difficult to locate and observe; as one of the best-documented species, sighting it comes neither as a surprise nor as a discovery, and there is no worry about its future. Why seek to observe it, then? Each spring, equipped with a field recording sheet he downloads from the BTO internet site, as well as a permit to enter the private wood he has been assigned by BTO's regional representative, Robin sets off for heron territory. At the beginning of April, when the leaves of the trees are not yet thick, early in the morning when herons are busiest, he enters the wood he knows

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distribution of avian species was a scattering of local studies and letters. This kind of project would not see the light of day until the 1920s or '30s.

so well for having visited it year after year. His eyes glued to the foliage, he walks along, expecting to spot some thirty nests built close to each other fairly high up, occupied by pairs of birds watching over their young and enjoying, at this particular time of year, the comfort of belonging to a well-defended colony, before dispersing again when their fledglings, once they are about seventy days old, are independent.

Heronries have their history, their often uninterrupted decades of occupation, their sites occasionally abandoned or extended here and there. Sometimes the nests are empty, more or less recently, some have gaps that allow the observer to glimpse eggs through the branches, and others, massive, have been patched up and consolidated over the years. This is a habitat fashioned over time by temporary groups of mobile creatures. To get to know a heronry one surveys the nests one by one to see if they are occupied, one listens, one tries to spot movement through the foliage when the adults are not around, but above all one pays attention to the bird droppings and their freshness. This last is the surest way of dating and confirming a presence. As Robin observes:

> The interesting thing about herons is that they build very skimpy nests where they are defecating, particularly when the chicks are growing, and the droppings run through the trees. So, from below, you can actually see which nest is occupied. Also, on the ground you see the droppings if you go and walk around with your head down. That works whilst it's dry. Yes, I count the herons like that and I am just one of hundreds that do it. We are all volunteers.

In this case the empirical experience, in contrast to exploring the territory of buzzards, does not allow for pinpointing birds as individuals in their interactions and in the complexity of a world seen from within, or for becoming a specialist possessing out-of-the-ordinary knowledge. Nor is the observer's attention intensified by the act of searching for and recognizing birds by approaching them as closely as possible. Observing here means limiting oneself to three annual visits, scrutinizing droppings rather than actual birds in order to count the numbers of a colony. Swapping his immersive ethologist's hat for one as a record-keeper of minor facts, Robin tries to determine what's going on and, as he puts it, "how good herons are at surviving."

Rebecca Ellis and Clare Waterton (2004) have written about the growing numbers of volunteers taking part in programs for inventorying biodiversity since the Rio Summit and the 1994 publication of the

British government's report, *Biodiversity: UK Action Plan*, which laid the foundations of an ambitious public policy of priority habitats and species to protect.[19] We have, on the one hand, a bureaucratic and quantitative arsenal using standardized facts to serve a policy of large numbers aspiring to the creation of a common epistemic space and, on the other, a heterogeneous network of observers in close contact with living beings and with the countryside, driven by a fervent commitment and having varied observation practices.

A muted echo reached me in the field of the delicate articulation of these two worlds. For those active within trusts there is no lack of difficulties. Dudley, who has volunteered for twenty years with the Butterfly Conservation trust, was tempted by the challenge of obtaining the "best picture of what is really happening to butterflies in the south."To do this, he had to divide Somerset County into tiny sections: in 1996 a series of lines was traced on the map forming sections (transects) generally one square kilometer in area, so that the territory could be properly sampled and the individuals or species in particular areas inventoried, either because the sites were particularly rich in species or because they included species that had been declared rare or endangered. Dudley is pleased with what he has achieved: in two decades the count has risen from 3,500 to 1.2 million recorded butterflies of different species thanks to a regular examination of sixty sections, compared to four in the beginning, and forty thousand records collected annually as against five to eight thousand only ten years ago.

Organizing such surveillance involves placing appeals three times a year in the *Wildlife Trusts* magazine, recruiting a large number of "recorders," whose skills may not always be up to scratch, training them sometimes, assigning them a subdivision, and checking their observations in cases of doubt—"we check for flying species out of season, for

19. In 2009, the constantly updated list comprised 1,150 species and sixty-five habitats requiring protection. It includes endangered endemic British species and global species (according to the IUCN); global species more than a quarter of which are present on British territory; species whose distribution and population have declined by more than 25 percent over the last twenty-five years; species present in the United Kingdom on territories smaller than fifty-nine square miles; and lastly species listed in the EU's Birds and Habitats directives, the Bern, Bonn, and CITES conventions, and by national British legislation (the Wildlife and Countryside Act of 1981).

unusual species in that area, or rare butterflies. If it is a rare butterfly, we try to get a photograph or a second opinion." Furthermore, discipline has to be maintained in order to meet the stringent requirements of the UK Butterfly Monitoring Scheme. The method that has been adopted, the "Pollard walk," initiated in England in the early 1970s, consists in walking a virtual parallelepiped almost thirty-three feet wide and one-and-a-quarter to two-and-a-half miles long, counting all the individual butterflies belonging to a same species or all the different species of butterfly that come into view.[20]

There are many reasons for lepidopterists to be put off by the discipline required by this type of monitoring. The section assigned to them is not always interesting (a site not offering a great diversity of species, for instance, or not many individuals). Variations in wind speed or cloud cover might sometimes oblige the observer to interrupt their count and return to the site later in order to respect the number and recurrence of visits required under the right weather conditions.[21] Above all, observation methods change. Unlike plants, butterflies are not usually counted. Enumerating sometimes very plentiful butterflies within (and not outside) a transect, often belonging to quite ordinary species or to species that are difficult to tell apart in flight—such as the small skipper (*Thymelicus sylvestris*) and the European skipper (*Thymelicus lineola*), usually present in the same biotope—is a challenge indeed, especially when one considers that the walking pace should be regular and the duration always identical!

Sometimes boredom prevails and the difficulty can be irritating. Dudley knows this only too well. He prefers to go at his own pace, stop when he likes, switch paths, follow the flight of a specimen he did not expect to see, capture it in his net, hold it delicately between thumb and forefinger, choose to enter one meadow rather than another depending on the weather and the chances of spotting a rare species or a cloud of butterflies.

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20. Ernest Pollard belonged to the Institute of Terrestrial Ecology at Monks Wood (Cambridgeshire) in the 1970s, when he fine-tuned this standardized method of counting butterflies in view of establishing statistics.

21. To carry out a butterfly count, the temperature must be above 13 degrees Celsius (55.4 Fahrenheit). A temperature of between 13 and 17 degrees Celsius requires a solar coverage of at least 60 percent. Above 17 degrees, all that is needed is for it not to rain. The wind speed must not exceed 5 on the Beaufort Scale.

> People are happy to do casual records … The discipline of having to do transects every week is quite onerous in a way. You have to follow the rules. It is very time-demanding. Properly it should be done, ideally, by the same person every week. As people go off on holiday or as business takes them away, you have to rely on someone else to do it when you're not there. The rules of the methodology are such that it should be reproduceable. But I know, I know having observed people and the way they do the transects, they walk at a different pace, they observe them in a different way. I'm always much more trusting of the datasets when it's one person that's done it. But it's just not possible.

Standardized observations and the methods of keeping track of populations require their own pace and setting, yet they do not always restrain lepidopterists, for these have their own mode of "floating" attention adapted to butterflies.[22] Furthermore, in the field I came across other forms of resistance. I occasionally heard it said that those in trusts tend to regard naturalists as mere collectors of information, despite the fact that the latter may be highly regarded by their peers and experts in their own right; hence the unwillingness of some of them to be called "volunteers." I have also heard the criticism that the Somerset Environmental Records Centre, which annually receives the records of local groups, does not always transmit in return the results derived from these databases and does not always report the uses to which they are put.[23] Also pointed out is the fact that the heads of such institutions, caught up in institutional thinking and lobbying, sometimes lose sight of the very reason for their responsibility, which is preserving species.

Some people voice reservations about the statistical results. The competence of the increasing numbers of observers who send in their findings online is questioned; certain data are checked, but one can readily imagine that some of them are erroneous, resulting in "dirty records." Furthermore, some emblematic species or taxonomic ranks, such as

22. As I have shown in chapter 4, lepidopterists are in this respect closer to birdwatchers than to botanists.

23. The mission of the Somerset Environmental Records Centre (SERC) is to communicate all necessary information concerning the state of biodiversity on sites that developers and constructors are on the point of transforming. They charge for this information, which annoys the volunteers, who send in their observations free of charge. Nor do the volunteers view very favorably the idea of compensating for damaged sites (areas left untouched or set aside for a protected or rare species).

flowering plants, birds, and daytime butterflies, are overrepresented compared to less attractive species such as spiders, mushrooms, lichen, and moths, which are less often inventoried, or are forgotten or neglected, although their ecological role is vital. Conservation programs, especially those sponsored by the Royal Society for the Protection of Birds, tend to focus on a few target species that garner the biggest financial backing. Such is the case for the heron, for which reed marshes were restored or created from scratch with the help of land purchases, dikes, and excavators. Such, too, is the case for the common crane, for which an ambitious reintroduction program was initiated in 2010 in Somerset (The Great Crane Project). This scheme, mobilizing a team of ten or so salaried persons and some thirty volunteers, has been questioned by naturalists, who are more inclined to allow species to return of their own accord rather than to see them raised in enclosures following incubation of their eggs under intensive human monitoring with the aid of technological equipment, all resembling a domestication system (see, in this regard, Manceron 2016b).

Nowadays these issues occupy social science researchers who focus on the participatory sciences in view of unraveling the outcome of scientific-managerial rationalism and how it transforms our relations with the natural world, bringing it into the society of risk and biopolitical surveillance (see Keck and Lakoff 2013). Often behind this stance is the hope of a counterthrust on the part of the participatory sciences and the prospect of reconfiguring the relationship between knowledge and power capable of producing other narratives and an alternative political commitment in the face of the environmental crisis. More radically, certain people even dream of a naturalist knowledge freed from administrative constraints. Such is the case of Peter Marren, who, in the last page of his book on nature conservation in England, makes an appeal for learning about the natural world while holding in abeyance the aspiration and pretention to appropriate and control the fate of living beings.

> Perhaps the time has come to release field-based natural history from the belly of the conservation industry, where it has been confined these past 30 years. Is there not still something to be said for dumping the burden of care for a while and just enjoying nature for its own sake? … In the "wildscape" of the near-future, conservationists will have a considerable say. Many things good, less good, and indifferent will be done in the name of nature conservation. But the objects of the great debate, the badgers and lizards and beetles, do not know

> that their names are on the annexes of a dozen conventions, nor that there is a five-figure Species Action Plan resting on their tiny head. They just get on with their own lives, much of which are still mysterious. If we explore their world, it should not only be because we need information for an action plan, but because we are intelligent beings with an innate curiosity about the natural world around us. To break free, naturalists will have to put the conservation industry behind them for a while … We should resist seeing wild animals as pets or "targets" and respect their difference to us, and the complete lack of personal contact every time a beast or bird looks us in the eye … It is good for us to be reminded that nature is an infinitely more complex and tested scheme than anything we try to impose on it. (Marren 2002: 316)

In Marren's opinion, the reckless ambition of controlling and restoring living beings needs to be suspended for a while so that the spirit of the natural history pioneers, in other words simple curiosity and the awe of creatures moving about freely in their own world, can return. To arrive at such a statement is due to how naturalists' participation in practices of observation has become such a powerful trend in England. In France, however, research into the participation of naturalists in inventorying biodiversity shows a very different picture.

In a dissertation titled "À la recherche de papillons perdus. Les Naturalistes amateurs à l'épreuve des observatoires participatifs de la biodiversité" (In Search of Lost Butterflies: Amateur Naturalists Faced with the Challenge of the Participatory Observation Centers for Biodiversity), Emmanuel Charonnet shows that in France the phenomenon of participation is prompted mainly by research centers, especially the Museum National d'Histoire Naturelle in Paris, which has hosted the Centre d'Écologie et des Sciences de la Conservation's Vigie-Nature project for a couple of decades, relying on existing naturalist associations for recruiting observers.[24] Charonnet identifies the same resistance among French lepidopterists as mentioned above among their counterparts in England. He attributes their misgivings in part to the fact that

24. For example, counting species or individuals in a given population can lead to scientifically establishing correlations between the number of species and the use of pesticides, or it can define parameters of abundance that can be used as a reference for classifying certain sites as Natura 2000 sites or ZNIEFF sites (Zones Naturelles d'Intérêt Écologique, Faunistique et Floristique).

their primary objective is not to watch over protected or endangered species, since "their daily practice is mainly oriented by the desire to enter into contact with a broad diversity of life-forms" (Charonnet 2019: 591). Only when the occasion arises do they take part in counting programs, as they tend to be contemplative rather than militant, according to him.

So far, there seems to be little difference between France and England, but there is one exception, and it is considerable: English naturalists are not occasional participants! One of the major differences, in addition to those I will detail below, is in the collaboration between ecologists and naturalists. In England this is an old tradition, as we have seen in the case of gray herons, compared to France where participatory programs only began to emerge in the 1990s. Moreover, in England such programs are powerfully mediated by the presence of conservationists who situate themselves at the interface between two realms, thus creating many possibilities for bridging them, some scientists being at once involved in protection schemes and in naturalist practices. This is quite different from the typically French opposition between scientists and amateurs, and the sharp underlying perception of their asymmetric status situations linked to a low regard for the empirical sciences in France since the nineteenth century. In Britain the two domains abut each other and are even intertwined, both being solidly anchored, though in different ways, to a concern for nature and knowing about it.

Thus, rather than ask what naturalists lose in inventorying for trusts, let us look at what the monitoring projects do to them and what they make of them, above and beyond the very human, social, and political issues posed by administering nature. For viewing the involvement of English naturalists in participatory schemes solely through the lens of the institutionalization of relations with nature, through the managerial urge to control it, or in terms of political stakes or positions of power, would be to miss the substance of what matters to them and their altogether singular manner of keeping track of biodiversity.

A Burden of Responsibility?

The naturalists I speak of are eyewitnesses. They leave to databases and statistical analysis the task of demonstrating threats, of rendering them tangible, of establishing correlations between declining populations and certain environmental factors. Neither Robin nor the others regard themselves as whistleblowers or canaries in a mine. According to them,

there are neither declining populations nor proven extinctions if there are no statistical analyses or regular maps to make them exist in the first place and to give a shape to the chaos of multiple single reports. They therefore situate themselves prior to conservation actions and warnings; they regard themselves as detectors and always refer to "them" when speaking of the importance of trusting the graphs, figures, and actions put forward by trusts. They see trusts as extending their own sphere of activity and responsibility, but differently. As Robin emphasizes:

> Interestingly, because they've got this long-term series of figures, they know how well herons are doing in Britain. It's not a hundred percent coverage but it's a very large percentage of what they think are the number of birds in Britain, so it's probably very reliable. Twenty years ago, we had a really bad winter when it was very cold and heronries shrunk. Dropped in a year. Fifty percent was lost, but then we can monitor the recovery and they actually recover very quickly. In about five years, they have recovered their numbers. So it tells you something about the biology of the birds and how good they are at surviving.

Or as James says:

> The Wildfowl Trust is very keen on keeping track of the population of birds so they can see whether the numbers are going up or down and whether there's any particular need to get worried about things. They can try and make sure that areas which birds use don't get destroyed. But also they've been looking into, in some cases they've been going up to Iceland, for example, to try and do some work on where the geese breed. So there's a number of things they can do.

To hear them, the collaboration is worthwhile. Thanks to counts, inventories, and population tracking, in the end naturalists can indeed take pride in participating in the implementation of national laws and ordnances that regulate agricultural activities and practices, culling of game, and the human hold over wildlife. They can rejoice, for example, on reading the Bat Conservation Trust's website, where they learn that all bat species in the United Kingdom are legally protected: deliberately capturing or wounding them, or intentionally destroying their nests, even when unoccupied, or blocking access to them, is a criminal offense. By clicking on the "reporting bat crimes" tab, the user agrees to allowing a local planning authority conduct a preliminary investigation on the

presence of a rare, endangered, or protected species before delivering a building permit. Lastly, naturalists are not disturbed at the thought of contacting local authorities or the police to dispute a decision by the urban planning services about the absence of a preliminary survey or the presence of nests that construction work might destroy.

From this standpoint, naturalists participate in trusts at once as producers of knowledge and as members of a political community. On the one hand, they inventory as a way of learning about and understanding the fate of plants and animals (they watch over them); on the other, they contribute to the spread of a model of good practices toward nature (they watch them, in the sense of contributing to a form of surveillance comparable to the principle of a neighborhood watch in urban areas) (see Manceron 2015b, also 2013). To clarify the tenor of their engagement with charitable trusts, we need to look into the question of the combination of trust and vigilance. Trust provides the name for that unique organization which the French lawyer and scholar Pierre Lepaulle describes nicely in the following terms: "The trust is the Englishman's guardian angel. It is an impassive thing that accompanies him everywhere from cradle to grave. It is in his school and in his sports federation; it follows him to the office in the morning and his club in the evening; on Sundays it is at his side in church or in his political committee; it sustains him in old age until his last breath, then watches over his grave and deploys the light shadow of its wings over his grandchildren" (Lepaulle 1932: 114).

Among the most original creations of English jurisprudence is the procedure that consists in entrusting a property or set of rights of which an individual or legal entity (settlor) divests themselves to one or more persons (trustees) to hold and manage for the benefit of a beneficiary or several beneficiaries.[25] This form of dividing or fragmenting a property right is not contractual but does involve a unilateral agreement. It is a voluntary undertaking or promise by which the trustee agrees to respect faithfully and diligently at once both the wishes of the settlor, with the precise intention that underlies the creation of the trust, and the interests of the beneficiary. Interestingly, this concept does not originate in common law or in parliamentary legislation but in an additional legal principle, the principle of equity. Dating back to the fifteenth century,

25. This system is generally used in asset and estate management: the trustee manages the estate of the deceased in the interests of the heirs for a designated period of time.

this system allowed litigants to appeal directly to the monarch via his chancellor, usually a member of the clergy, who would examine their plea when the common-law courts failed to render a just and equitable ruling (Wortley 1962). Consequently, trust beneficiaries may appeal to the law, even though they have no property title, for moral considerations (equity, honesty, sincerity, justice, and a clear conscience), if they deem that the administration of the entrusted property does not correspond to the trustee's promise and moral obligation.[26]

It is clear why the concept of the trusteeship of nature was able to flourish in modern environmental law based on the English model of a natural world that cannot be appropriated exclusively, is under the care of current and future citizens, and is protected and safeguarded by charitable trusts on behalf of the public interest. But the point that holds one's attention particularly is the three-sided nature of the trust together with its set of interrelations. "Charitable organizations depend on people," reads one of the reports of the British Law Commission, both on the financial level (gifts, donations, membership dues) and on the level of their activities (volunteer work) and means of acting.[27] Hence the importance of their numbers and the quality of their contractual relations with private owners who, in the name of the public interest, facilitate access to their land and the application of environmental measures. In this respect there is a noteworthy difference between England and France, where private owners tend to regard regulations and interventions in the name of wildlife as unlawful intrusions and infringements of their property rights (Meur-Férec 1993: 581).

In contrast to a simple French-style charitable organization (under the French 1901 law) run by volunteers working for a cause, a trust is administered by individuals who undertake to protect something (in this case the environment) on behalf of citizens who consider themselves custodians of a given trust, a promise made, an entrusted entity, hence the vigilance they exercise toward the trust's administrators. In return, volunteer work is regarded as a moral duty rather than a service rendered to the institution, a form of voluntary contribution to a collective effort:

26. Equity acts are meant to protect persons rather than property; they rule on intentions rather than on procedures, draw inspiration from the strictures of moral conscience, and do not allow an injustice or tort to go unredressed. See Sheridan 1969.

27. *Law Commission* Report no. 375, "Technical Issues in Charity Law," commissioned by the Chamber of Commons, printed on September 3, 2017.

not enlistment but a freely consented commitment as a member of a citizens' organization emanating from, and giving legitimacy to, the social body. The term "volunteer" does not in fact correspond totally to the French word "*bénévole*," as it derives from the military term for an individual who joins the army without being drafted. It currently extends to all types of unpaid contributions to a charitable institution.

This type of mobilization is very different from what one observes in France, then. If French naturalists are so wary of participating in a survey, it is also because this involves a different relationship to the governance of nature. The environment is regarded as public property rather than as a common good; it is up to the state to protect it. Similarly, charitable organizations are rarely viewed as forms of citizen governance that establish modes of responsibility on behalf of the common good in tandem with or even as a substitute for governmental responsibility.

Trusts thus create a commonality in the service of the common good, and naturalists have a particular place of their own in them. In the nature reserves owned and/or managed by trusts, naturalists seldom join the ranks of those who, volunteers like themselves, engage in hands-on work, such as the upkeep of habitats to encourage the return or the permanent settlement of a species partial to that type of milieu. This kind of "wildlife farming," as the botanist Graham calls it, tends to attract enthusiasts of open-air activities: cutting down trees to encourage the presence of butterflies in an undergrowth, clearing reed beds for water birds, maintaining hedges and ditches, uprooting common ragwort (*Jacobaea vulgaris*) which is toxic to the liver of cattle (though it is also the almost exclusive food of certain caterpillars!), and so on. Volunteers of this kind are drawn to the cold and to physical effort, to training their body and tempering their humor (they frequently refer to the healthy life, fresh air, green exercise) all the while invoking the pleasure of doing something useful and belonging to a close-knit group exulting in the feeling of being one with an institution, aptly named a "body."[28]

Nick belongs to the team of volunteers at the Shapwick Heath reserve. On taking early retirement at fifty-three, he joined Natural England, whose green t-shirt adorned with the institution's logo he often wears. In his youth he wanted to become a farmer, but followed the

28. This type of volunteer work appeals mainly to people who feel satisfaction on returning to work after retiring (giving something back) and to young unemployed persons, or persons who have reached a turning point in their life and hope to join the world of conservation professionals.

path that some in his father's family have taken since 1891 and went to work for the Cadbury firm, where he was employed as a sales representative. Subsequently, one thing leading to another, he worked as a bus driver and as a teacher in a state school, helping pupils in difficulty. A firm believer in the virtues of outdoor education, he led several expeditions abroad, among others to Namibia and Peru, in the framework of the British School Exploration Society and Raleigh International, helping to transmit "the spirit of adventure, courage, discipline, self-reliance, and group spirit" to young people seeking a better future and students desiring to experience useful travel (humanitarian, environmental, and scientific trips). At Shapwick he encountered the same spirit of group camaraderie around open-air activities aimed at protecting the environment, even though he sometimes deplores the tendency of the trust managers to assign a subaltern or thankless role to volunteers, forgetting in the process the volunteer's vocation, namely that of serving a common cause and being recognized for competence rather than rank.

As for Liz, when from time to time she thinks of joining the group that meets on Thursday mornings at the Shapwick Heath nature reserve—without ever having actually done so—it is solely because of the physical exercise to add to the hours she puts in at the swimming pool and the pleasure of imagining herself making open-air bonfires! And though she sometimes complains or voices reservations about the choice of a development project she considers pointless or contrary to the interests of plants, or when she happens to criticize certain conservation professionals equipped with a doctorate in biology but profoundly ignorant in botanical matters, this is owing as much to a kind of legitimacy to scrutinize the trust's activities she feels entitled to as to her deliberate remoteness from activist forms of social action or nature conservation:

> There is a political slant put on that, when it gets into the papers, but I've never been involved in that really. I don't ever call myself a conservationist; it's used as a bit of a dirty term. I think it's been polluted, that word. In a way I am a conservationist because I want to make sure that the plants that I know about are still there in fifty years' time, but I'm not necessarily going to go out and stop the bulldozers.

Making sure that the plants Liz knows will still be around in fifty years … A naturalist's moral duty does not involve taking stands on behalf of the living—they are not their representatives—or being a crutch. No, nature deserves better. As it is autonomous, however vulnerable, neither

compassion nor pity is appropriate, nor is guardianship. As Graham puts it, "if you manage in favor of something, you are probably doing harm to something else." For naturalists, the living are the true beneficiaries of a trust; if naturalists have one moral responsibility, it consists primarily of keeping track of their situation and making it known and acknowledged.

When the presence of a living being is recorded, something is activated and established, and this in different ways. A naturalist's record is first of all a written trace jotted down on the spot in a small notebook or checked off on a cardboard list when the being is recognized as a stable entity, and contact thus becomes an event. The act of recording underlines its significance, that of an experience that matters to the observer and is stored as a personal memory. The first appearances of a rarely or never-before-seen yet recognized specimen is in this respect particularly meaningful. It is important to be able to recall the encounter in detail together with all that leads up to it in the background—the familiarization, the accumulation of bits and pieces of knowledge, the know-how—everything that has contributed to making the object appear *in situ* and to the observer's capacity for astonishment.

The actual value of the experience and activity of the contact is underlined by the fact of noting it down. Above all, this value is linked to a form of reciprocity which has a moral significance. As Antoine Hennion puts it, an ethical preoccupation implicitly guides the amateur's exigency, an exigency concerning themselves but also concerning the being they care about. Recording the presence of living beings is a way of doing them justice, for they are neither passive things nor mere repositories for emotions or simple cognitive constructs. They play an active role in the encounter and the passions aroused—"the object makes them as much as it is made by them"—and everyone recognizes what he or she owes to them (Hennion 2013). The gesture of keeping track of their presence is at once a raison d'être and a trigger for a never-disappointed taste for the naturalist side of life. It is a fitting response, a tribute, a manifestation of the importance and full, free existence that affects, holds, mobilizes, and inspires action. If amateurs feel the need to participate and report, it is above all on behalf of the beings that fill the natural world.

This form of reciprocity is not an exchange or a transaction; no obligation binds either animals or plants and no counterpart for the services that may be rendered to them is expected. It is apparently part of the logic of care and protection that Philippe Descola describes in his chapter on types of attachment, namely the interlinking of mutual advantages, with the initiative coming from the person who is capable of giving

benevolent attention without expecting anything in return other than the supposed gratification of the recipient (2005: 445–50). Nevertheless, in this instance, unlike the relationship of a shepherd with his flock or a warden with the entities that populate a nature reserve, the utilitarian function of taking care of the animals or plants in question and the idea that they depend on naturalists to live, reproduce, and perpetuate themselves are absent.

What we are talking about is instead a kind of celebration of life-forms and the relationships materialized and made manifest by the act of recording. One thinks of the term "respect," concerning which Donna Haraway, attentive to the exegesis of the root term *specere* to clarify the nature of the connection between companion species, writes, "looking back in this way takes us to *respecere*, to the act of respect. To hold in regard, to respond, to look back reciprocally, to notice, to pay attention, to have courteous regard for, to esteem" (2021: 35). Being attentive to the beings that come into view … *Species* derives from the Latin *specere* (to look at). Every aspect that points to the importance of the act of looking—attention, observation, perception, caring for, and taking care of—comes together in the word.

Noting down is thus an expression of the respect owed to the living, a respect conveyed by the act of giving visibility to beings that could not be seen or seen clearly were it not for the presence of alert, attentive humans capable of naming them. This brings us to an aspect of recording that is particularly eloquent in these times of extinction: connecting the invisible to the existing via naturalist intercession—in the sense of an intervention and mediation—can just as well consist in materializing an invisibility in the eyes of the world as in signaling an absence that can signify the annihilation of a life-form. As a result, the reciprocal duty mentioned above becomes thicker. When a living being comes into view, a form of obligation arises that is all the more pressing in that some of those living beings—at least in certain cases—are endangered and other species face an uncertain future. One thinks of this power as comparable to the power of the dead. As Grégory Delaplace writes, the dead oblige us, summon us to do certain things for them. Our existence, he says, "finds a prolongation in the responsibility we feel duty-bound to fulfill" (2018: 16). Taking part in a group effort is an extension of the initial, respectful gesture of recording, but with an additional dimension, for the living being is also a future dead being; it carries the burden of being one of the last representatives of a species no longer present in a region where it once thrived.

The project of keeping records thus implies that humans have the duty not to allow extinctions, past and future, mute and inactive—to borrow Vinciane Despret's terms in *Au bonheur des morts* (2015: 14)—to vanish completely. It is important to bear witness in the present to an existence that may soon no longer be there, as in a kind of pre-death inventory. "We have a long-running record, a sort of memory of what was there," David says, referring to the bird counts he has participated in. As Pierre Nora emphasizes, the urge to keep records grows stronger when "the sense that a rapid and definitive extinction combines with the exact assessment of the present and the uncertainty of the future to impart vestiges to the most modest, the potential dignity of the memorable to the humblest" (1984: 26).

Inventories construct the history of beings swept away by change through "a deliberate and organized secretion of a lost memory," an electronic or paper prosthesis (Nora 1984: 28). Yet this collective responsibility of remembering that goes hand in hand with the personal obligation to remember does not constitute a means to recall or to commemorate. I never encountered such a use. To be sure, the existence of the vanished is prolonged in this fashion, past and future extinctions are "immortalized" by monitoring the current situation of species, but the desire to archive, like that to remember, is above all a creative act which recomposes and "re-members," as Despret (2015) says apropos of the relationship of the living with the dead.

Recomposing

Following naturalists as they observe, one realizes how little inventorying actually involves a nostalgic or sentimental rapport to a lost or missing side of our legacy and how much it involves an active, living attention to what persists, emerges, comes back, moves about, and changes. While the fluctuations in the living world, although extremely common, have become charged with an intensity heretofore never seen, systematic observations function as points of departure, not as recapitulations, for new investigations to be carried out, riddles to be solved, and anxieties to be laid to rest against a backdrop of complexity. The imagination is at work. "I'm always enquiring," says Simon, poring for hours over maps depicting the distribution of plants in the 2002 Oxford University Press edition of the *New Atlas of the British and Irish Flora*, a 910-page tome containing 2,412 maps and compiled from nine million records,

in other words the totality of the data collected for the *Atlas of British Flora*, with the addition of 750 new species largely gathered between 1996 and 1999 by 1,600 volunteers who surveyed more than 99 percent of the 3,800 ten-kilometer wide squares of Britain's Ordnance Survey National Grid.[29]

When Simon examines or points to one of these maps in my presence, the color variations of the many small dots covering the national space hold his attention, making it possible for the first time in an atlas to visualize changes rather than situations, absences behind presences.

> The dark blue dots are where it was recorded between 1987 and 1999. These pale ones show where it was recorded before 1970. You can see for instance, this plant, great sundew (*Drosera anglica*),[30] there is lots of it in Scotland and in Ireland but in England, most of the sites where it used to occur, they have gone, apart from the New Forest, Dorset and one or two in Norfolk. We had it on the Somerset Levels, at Shapwick, but now it's gone. The last record was between 1970 and 1986.

As in detective work, these dots are proof or at least clues to new possibilities for interpreting and restoring the discontinuous fabric of presences. In cases like this, the map displays lines rather than isolated dots. These lines may lead naturalists to spots where there are no dots or where dots are present. Some will want to make sure that the light blue dots really correspond to the situation on the ground—"you can never be sure that it isn't there. We might go out to the Somerset Levels this summer and find it!"—or they let dark blue dots guide them to a location of emergence interesting to investigate—"are they really there, where precisely do they grow, are they abundant, how and why have they taken root there?"

On other maps, Simon lingers over the distinction between blue dots (native occurrences) and red dots (alien occurrences), allowing him to retrace patterns of emergence linked to the introduction of a new species or the spread of individuals belonging to a same species. In such cases he

29. Overseen by the Botanical Society of Britain and Ireland and the Centre for Ecology and Hydrology, this project was initiated by the Department of Environment, Food and Rural Affairs of the British government.

30. A kind of carnivorous herbaceous plant that favors raised and blanket bogs on acidic substrates, also more rarely, valley bogs and calcareous mires.

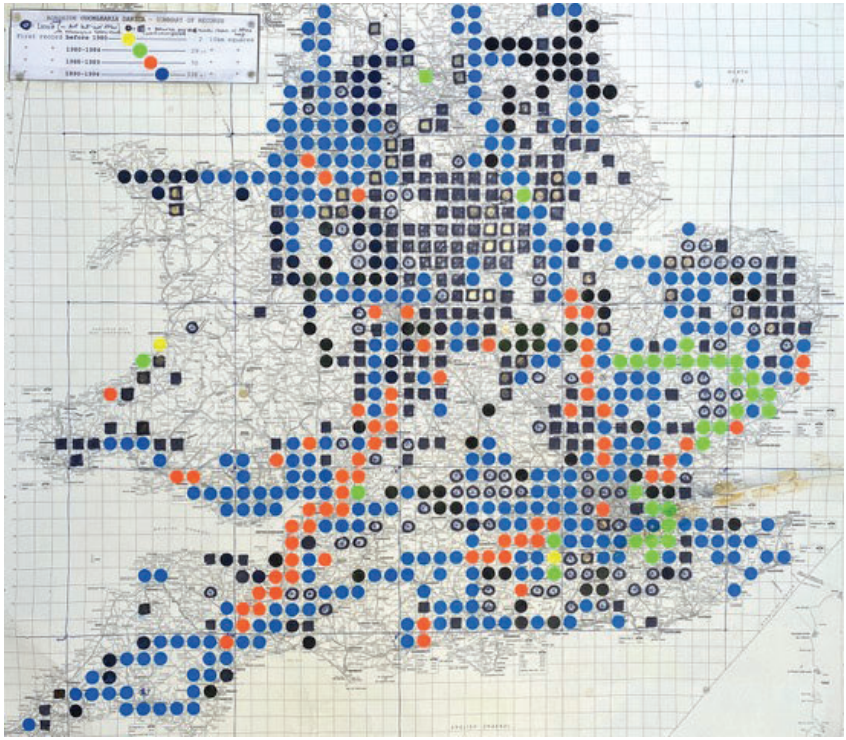

Figure 16. Part of a large wall map on which Simon tracked the spread of Danish scurvygrass (*Cochlearia danica*) across the British road network. Yellow dots, pre-1980; green dots, 1980–1984; red dots, 1985–1989; blue dots, 1990–1994; black dots/squares, 1995–1999; asterisks in black circles, 2000–2006. (Copyright S. J. Leach.)

tracks a plant's up-and-down existence on a spatial representation rather than diachronically.

> Look at that map. This is Danish scurvygrass [*Cochlearia danica*].[31] It grows on cliffs, at the back of salt marshes, shingle, in a variety of coastal habitats. It is also now extremely widespread and common inland. It has spread along the road networks. In fact, you can just about make out lines of red dots. All these records are mapped "alien"

31. The name might be linked to sailors on long sea voyages chewing its leaves rich in vitamin C to prevent scurvy, rather than to a specifically Danish geographic origin.

> and I think that's wrong, as we don't know how the plant got to these sites. We can only suppose that they wouldn't have got there had it not been for human beings. The seed is very, very small. When you've got lorries and cars rushing along the road, then seed from Danish scurvygrass gets caught up in the slip stream, in the rush of air behind and so the plant spreads by being sort of swept along by the vehicles. I think these red dots should be blue because all that's happening is the plant is making use of a human activity. It is exploiting a human-made habitat that has allowed it to spread. It's not in any sense a deliberate introduction. Some might argue that it shouldn't be growing there. Well, it is, and I think we need to accept that these inland records are now part of its native range.

Simon is familiar with the dots marking the line of the M5 motorway between Exeter and Birmingham. He himself conducted the inventory of this stretch of road. He sees red when he sees these dots in red. Using the traffic on the highway to spread more efficiently, Danish scurvygrass has turned a human artifact to its own advantage, prospering in locations far removed from its ancestral coastal habitat. It is here that botanists recognize the essential difference between a native and an alien species. It is a matter of agency, one might say, rather than of an essence defining a particular identity. The same is true for plants that have escaped from gardens, which can arouse the same enthusiasm and curiosity about their opportunistic inventiveness, unexpected appearance, and impressive vitality when found growing in a crack or an unlikely or incongruous environment. Simon adds,

> This is my record. I found this species [*Armeria alliacea*] in Taunton on 15 June 2009. It was one plant, growing in the pavement, just down the road from where I live. It had presumably self-seeded into the pavement from plants that were growing in an adjoining garden. I was so enthusiastic about this plant, I kept an eye on it, but later that summer it was destroyed when an off-road parking bay was resurfaced. The plant disappeared. I was excited by that plant because I had never seen it growing in the wild, if you can call a pavement in a street in a town the "wild." In fact, it had never been seen in the wild in Somerset before! It is things like this that really motivate naturalists. Seeing things growing in places where they haven't been seen before.

Rather than confining himself to a dying present, Simon focuses on things that emerge or things that refuse to appear. He situates himself

in the extended time of hidden connections between seeds, artifacts, and milieux, in a world where humans and plants live side by side. He likes what the atlas shows, for example bringing out variations he can then hypothesize about. This was how he was able to correlate the spread of Danish scurvygrass and the practice of salting roads in winter, not done in Ireland but common in England, where the buildup of salt on the shoulders offers this species conditions of life fairly similar to those it encounters on the Atlantic coast.

The naturalist's attention may also be guided by a desire to reveal hidden aspects of a specific diversity: those that institutions sometimes neglect because they are too common to belong to the pantheon of remarkable, endangered species; or species needing reintroduction; or species that have been classified too rapidly as "alien" because they have not been present long enough, are not wild or native; or species whose fragility or vulnerability have not yet been established. Such was the case of the field gentian (*Gentianella campestris*), considered widespread but having clearly suffered a massive decline in England as a result of overgrazing in highlands and the relative neglect (or plowing up) of lower pastures. Looking at its map, Simon says, "These light blue dots show how this species has really vanished from so many parts of England and Wales. This is just one of a large number of widespread species that weren't considered endangered in the past but which we now know are disappearing across large areas of the country." An atlas changes one's perspective, and can lead one to ask what rarity or abundance, presence or absence, really mean at the local and national levels. And above all, it introduces perplexity and uncertainty. As Liz puts it:

> The plant might have been there twenty years ago but somebody didn't notice it then. Maybe it had a bad year, sometimes plants won't appear one year. So you don't really ever know whether something is there or isn't. It depends on whether it's an annual, a perennial. Sometimes plants are biennial so they germinate one year and then don't flower until the following year. Those that are annual, like some of our rare arable plants, that grow from seed and then die in one year, they shed their seed but you go there next year and there may not be anything there because the seed is lying dormant in the soil. A lot of those seeds could have an opportunity to flower when the ground was disturbed. Some seeds are quite vulnerable if they're very big because they're a juicy meal for a mouse, while tiny little ones often survive. So there are all sorts of mechanisms that plants have for surviving.

The insignificant becomes remarkable, the instantaneous becomes endless movement, vulnerability turns into a trend whose sometimes infinitesimal variations and above all its chances for regeneration are scrutinized. From this viewpoint nature is downright talkative: it is not a mute contingency, a patrimonial collection, nor a functional natural order, but a process, a set of consequences, events, opportunities, and constraints under which living beings perform their part in the intervals of a symbiotic web. As Isabelle Stengers writes, "when one is inside ecology as a practice of observation, attention, imagination … one is already on the road to interdependence—what a behavior needs, what endangers it, what makes one sensitive to it, how it can mutate, etc." (2019: 20–22). All these collective investigations against a backdrop of crisis amount to imparting a new value to the connections they involve, the fragility of species as well as their vitality. This is particularly true in botany and lepidopterology owing to the fact that the observer's attention is focused on beings closely dependent on micro-biotopes (it is less true of birds). In this instance the quest is sparked by the search for a habitat that offers favorable symbioses. To quote Anne, a botanist, "it's not just plants on their own but plants where they grow and plants that grow with them."

In this respect the system of inventories or monitoring now seems to function as an incubator for recomposing relations. "The archive … is the means of bringing into existence a community that would remain improbable without it," Daniel Fabre writes (2002: 21). The same holds for cartographic systems. A first level of recomposing relies on groups of naturalists themselves. The dots connect as lines of action for specialized groups duty-bound to share knowledge, which a map gives consistency to and cements, as mentioned in chapter 4. "We have a distribution map of the stinging nettle [*Urtica dioica*]," says Liz, "and we look at it all the time because it shows so clearly Helena's patch, my patch, Ro's patch, Steve's patch, Simon's patch, you know, so accurately." Everyone can recognize the observers behind the dots; their main surveying area is visible, and so the map becomes a territory of interconnections as much as a picture of personal contributions. Of course, reading one's name on a list of contributors gives pleasure: "some people write books, which is leaving your mark on history; some of us do a little bit of plant recording! It's minimal stuff but I think it's probably in the same category in a way."

Behind the dots, humans and other living beings meet, precisely at those particular points of contact. On the flat surface of the map, observers and the observed seem encapsulated in the same grid. Moreover, thanks to cartography, animals and plants exist as residents. Surveyed,

enumerated, located precisely like humans in villages, they are the inhabitants of a shared territory. When Robin monitors occupied heron nests, he keeps track of them year after year; he watches over them and keeps an eye on them; he checks up on them much as people visit neighbors to hear their news, to make sure that they are alright. He seeks "to get to know over the years how their lives have been affected, whether they are surviving." The systems of surveying and mapping are some of the remarkable artifacts that function as indisputable methods of giving existence to all the beings as though caught up in the same territorial fabric.

As Rafi Youatt suggests, this leads perhaps to a new bio-social collectivity: "Identifying species contributes to building political units that are bio-regional in nature. In one way, it can reinforce existing political units like the nation-state that coincide with ecosystemic boundaries" (2008: 408). Indeed, it would appear that the tracking and surveying system inclines one to view territory as a coexistence of species, including humans, forming a "community" of inhabitants. Doubtless this notion of community derives its significance in part from the importance conservationists give to native species that tend to be regarded as integral to the national character. The British List, or the list of birds compiled by the British Ornithological Union (BOU) since 1879, currently comprises 620 species. The native character of the species that makes them authentic "British birds" requires their presence on British territory for a certain amount of time and proof of their self-sustainability, meaning their ability to reproduce and live on British soil even though they might have been introduced or have escaped from a captive condition, provided this did not occur after January 1, 1950! The choice of an arbitrary cut-off date as well as the constant updating of the list (which has currently gone through nine editions) shows that the birds on the list must, because they have been sighted in Britain, be assigned an identity in keeping with criteria than can evolve and be discussed in the BOU's forums.

Species that have been declared "British" include the following: (a) species that have been seen in an apparently wild state at least since January 1, 1950; (b) species that were seen in an apparently wild state between January 1, 1800, and December 31, 1949, but have not been spotted in a significant manner since; and, last of all, (c) species that, despite being introduced, are now considered self-sustaining and well-established in England, in other words, naturalized. Not included on the list are species whose presence was mentioned between 16,000 BCE and 1800 AD but has not been reported since! The case of the common crane is interesting in this regard. Not seen in England for four hundred

years, though there are frequent traces of its presence in medieval archives, it has nevertheless been given the status of "British breeding bird" thanks to a reintroduction campaign in the Somerset marshes and the fact that this emblematic natural-history species numbers more than sixty full-time residents and self-sustaining nesters. Despite the fact that they were bred from eggs collected from a German marsh, cranes were no doubt perceived more rapidly than other birds as English owing to their prestigious past (their reintroduction has come to be known as the "Crane Return") and to human efforts to acclimate them as a species capable of surviving for several generations in a particular environment, thus making them not only residents but also and above all inhabitants (Manceron forthcoming).

Naturalists in Britain are equally deeply attached to common species long present on English soil. For nothing in the world would they want to be deprived of their presence or accustomed to their absence. Dudley rejoiced at the return of the large blue butterfly (*Phengaris arion*), declared extinct in the British Isles since 1979, but which lepidopterists can now admire at Collard Hill in Somerset. Common cranes and large blues have joined the ranks of distinguished species that people hasten to view and welcome back. Those that were never expected to be seen again in the English countryside are there, resurrected as it were. In effect, the missing portion of a legacy has been restored, as has the potential for present-day and future relations.

As we have seen, Simon queries the split between indigenous and exogenous categories, less to dispute its existence than to try and render the distinction more precise, as he wishes above all to understand the reasons for a new presence. Species that have been declared "alien" are currently shown in atlases, whereas in the tradition of Flora and Fauna only those said to be "British" were depicted. No doubt the contemporary ecological perception of milieus as belonging to an intricate relational fabric and the growing influence of the phylogenetic paradigm that stresses the transformation of species against a background of generalized extinction have weakened the old dualism of species and identity that held sway in the 1980s and '90s, as Kay Milton has clearly shown. In the name of conserving biodiversity, eradicating an introduced alien species accused of annihilating another species by hybridizing with it was actually envisaged.[32] The issue was hotly debated at the time. Then as now naturalists

32. Milton got interested in a conservation campaign conducted in England and Spain to eradicate the North American ruddy duck (*Oxyura*

shared with conservationists the desire to recover what had been lost and shrank from allowing a habitat to be colonized by a single invasive species. Yet a great portion of naturalists do not count themselves among those who believe that "aliens" are illegitimate because they don't (yet) fit in from the heritage standpoint. They know that everything is a matter of time compared to the arbitrary perspective of altogether too human institutions and that it is more interesting to observe new situations than to shy away from them.

No doubt, nature conservation is not unconnected to certain theological principles of "a distinctive doctrine of human stewardship and responsibility for God's creatures" (K. Thomas 1984: 24). Indeed, the aptly named "creatures" were being honored in the Anglican church at Wedmore in October 2010, the day for clearing the parish territory of unwanted debris (the "Big Village Tidy Up"). Brandishing a glass bottle containing a desiccated mouse, the curate reminded those gathered how important it was not to leave trash lying around in the countryside and on roadsides that could cause the death of numerous small mammals. He added that the task of picking up refuse was consistent with the idea that humans are connected to the other living beings in Creation and are responsible for them, not because they are their masters but because they are their wardens, that it is their duty to respect the natural world and render it better than they found it. In this instance the curate echoed the idea popularized by Lynn White, namely that human beings created in the likeness of God should exercise their superiority over nature and bend it to their needs (L. White 1967). But, the curate propounded a very different interpretation of the environmental message in Genesis; he defined humans as the "God's stewards" with a duty to watch over His creation wisely without claiming to be its owners.

The idea of stewardship is a familiar one, nevertheless, and if it is widespread among conservationists, as we have seen, it is less obviously held among naturalists. The latter would doubtless agree with J. Baird Callicott's reading of the controversial text in Genesis, drawing inspiration from the thinking of John Muir and especially Aldo Leopold, to whom we owe the concept of "biotic community." The human is neither a despot nor an enlightened manager—which implies in both cases an asymmetrical relationship—but finds a third way, one that regards the

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jamaicensis) that had escaped from a British zoological garden in the 1950s and had had the bad taste to interbreed with a local endemic species, the white-headed duck (*Oxyura leucocephala*). See Milton 2001.

earth as a biotic community to which humans belong as full members (Callicott 2009: 28). This ethic, which considers humans as just another species, prompts Callicott to say that "a civilized and technological humanity is not only capable of coexisting peacefully with nature, but also of living in symbiosis with it" by valuing its aesthetic and intellectual prodigality over the production of useless gadgets (Callicott 2009: 85–86).

While naturalists cite the parson Gilbert White as a tutelary figure, they do not recognize themselves in the words of the American poet James Russell Lowell, who regarded White's work as "the journal of Adam in Paradise," though Lowell's volume, *My Garden Acquaintance* (1877), does describe familiar visits by birds in Elmwood, Massachusetts, and the mystical feeling of communing with nature. Nor do they wish to inflate the past importance of natural theology, when clergymen who were also naturalists went into raptures over admirable proofs of the divine plan of Creation, the perfection, ingenuity, complexity, and beauty of which contained many fascinating mysteries. When Edward, a chiropterologist, spoke to me about the historical constancy of clergymen in natural history, from Gilbert White to William Keble Martin,[33] he kept to sociological arguments spiced with a sprinkling of irony: "They were people from wealthy families who had time to devote to their hobby and who were perhaps better naturalists than priests!"

What emerges from the importance that naturalists attach to White's book is first of all the ardent attention that the pastor brought to things as small as the shrill of crickets or the manner in which flycatchers (family of *Muscicapidae*) fan their young in summer by beating their wings. All creatures, however small, insignificant, or despised, deserve to be observed attentively, described in detail, admired, and respected. As Keith Thomas writes, "the incomparable Gilbert White … shows endless wonder at the ingenuity of animal instinct, immense curiosity towards animate nature in every form, a respect for all living beings and an almost complete lack of repugnance for toads, spiders and others creatures conventionally thought repulsive" (1984: 69). Delighting in the diversity of the world for what it is without a bias for the human species: it is this revolution in perceptions which emerged in the English middle class as

33. Vicar of an Anglican church in Devon, William Keble Martin compiled *The Concise British Flora in Colour*, which was published in 1965. The *Flora* is the outcome of approximately sixty years of botanical investigation and is accompanied by the author's own color illustrations.

well as in the aristocracy and clergy in the final years of the eighteenth century that naturalists still regard as their tradition.

The other dimension of this filiation is to be sought in its relationships: the private ones that are formed on the local level of a micro-territory like a parish, no bigger than a handkerchief but teeming with inhabitants of every sort and forming a "whole community," to borrow Richard Mabey's terms (2006: 24). In his biography of Gilbert White, Mabey distinguishes three factors that might justify this expression. First is White's tendency to regard the living beings he knew best as parishioners: for example, he believed it was self-evident that swallows returned to their place of origin—"they are swallows from Selbourne, birds that belong to the place." Secondly, descriptions of human activities, feeding and mobility, are often very similar to those developed for other species through a minute, detailed examination of behavior. Thirdly, many of White's observations concern interactions between animals. He was fascinated, for instance, by the range and number of insects active in mild winter weather, noting how vital their presence was for sedentary birds. He was also interested in the food preferences of various slug and snail species, composing their seasonal menus from the numerous plant species in gardens.

Mabey sees in White the dawn both of ecological thinking and of a surprising view of wildness actually inserted in humanized space. On the one hand, animals go about their perfectly organized but, to a certain extent, impenetrable activities in close proximity to humans and in their midst, in the roofs of their homes, in their attics and gardens, along the tracks and roads they make. On the other hand, when their daily life, their routine comings and goings, their manner of behaving and doing, are closely scrutinized, they become intimates, inhabitants in the best sense of the term. Caught up together in the fabric of the parish space, over which the curate keeps watch, the creatures of the earth, humans included, go about their business and inhabit a territory that belongs to them collectively, perhaps a rough draft of a society or at least a dense web of interrelationships.

When Anne and David, who live in a small hamlet in the parish of Wedmore, sit on their cottage porch, binoculars and a notebook within reach next to steaming mugs of tea, they are immersed in the microcosm of their garden, their eyes caught by every movement of the birds around them. They utter their names when they see them, are amused when the birds chase one other, are elated when newcomers seem to want to settle or spend some time in the garden. Twenty-two species of bird visit

regularly, and Anne and David hope to spot others in that little haven—"we could have more," they say. They have planted butterfly-friendly flowers and a wood with some fifty varieties of native trees, taking care to let ivy creep up the trunks for insects to forage in. Every day, they stroll around their garden, lifting a sheet of corrugated tin underneath which a slowworm (*Anguis fragilis*) has chosen to make its home, making sure that the badger's sett is undisturbed above the cider-apple orchard whose crop they turn over to a neighboring farmer, happy in the knowledge that badgers risk less on their property than elsewhere.[34] In this ordinary "nature garden," which is both an extension of the house and a shelter for all those who feel at home in it, everything is conceived in such a manner that a broad range of existences can proliferate in it precisely because they are lodged under the same roof.

This is a form of fellowship that is at once an extension and an outgrowth of the bucolic model of the preindustrial cottage garden, evolving toward an immense planetary garden to be repopulated. As the idea of decline and extinction becomes internalized and land is viewed as an "inextricable fabric of life" in which humans too are enmeshed, as Callicott sees it, everyone is free to espouse the idea of a continuum to be established or recreated (Callicott 2009: 82). When Liz speaks of "her" plants and "her" birds, she is saying the same thing. There are two aspects to what she calls a "feeling for the countryside." The first consists of viewing one's connection to the natural world as part of oneself: "It is part of all of us, our sort of environment, our green environment. So I feel that the outside is as important as the inside, because we as human beings relate to the land." The second consists in thinking that as you learn to relate to what surrounds you, you walk around outside as though you were at home in it, as does every other living being. "As a species," she adds, "the countryside is my natural habitat."

The dialectical interplay between inside and outside makes human interiority the construct of a relational experience with the natural world, allowing humans in return to be enmeshed in the living fabric of the countryside like any other plant or animal species. This is why naturalists are determined to remain deaf to the siren songs of collapse and to direct their collective intelligence to reconnecting and recognizing that living beings have their own reasons for existing.

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34. Farmers accuse badgers of transmitting bovine tuberculosis. David and Anne find this accusation particularly unfair: bovine tuberculosis is a disease originating with cattle and badgers are only reservoirs of it.

CONCLUSION

The Antidote

The project of listing the diversity of species may seem like a dismal bureaucratic task; even the beings newly discovered annually all belong to a preestablished taxonomic system. Things of nature seem self-evident and thus to be of little interest for conceptualization, scientific abstraction, or the advancement of knowledge. Drawing up lists of species continues the encyclopedic project of the Enlightenment which, after occupying a major place in the development of modern science at a time when a universal taxonomic order was being edified, now seems to be no more than a mere collection of facts fit, what is more, to nourish administrative dreams of controlling and justifying conservationist or state administrations and institutions greedy for databases, statistical results, and numerical measures.

As Anna Tsing underscores in her book *Friction* (2004), lists of species celebrate global biodiversity; they persuade us with their ready circulation of the globe and with how they engender a certain excitement among those who desire to transform knowledge into progress in saving species and environments before it is too late. But, she adds, inventories of differences also delimit local areas, on condition we know how to pay attention to the practices connecting humans, flora, and fauna within a territory that is always a social locus. For naturalists, as we have seen, compiling lists does not mean placing knowledge at the service of mastery, power, public order, or conquest. On the contrary, it means entering an economy of attention to details and care, of encounter, and possessing

a sensitive knowledge that opens up the imagination and makes a situation interesting under its most particular aspect. Lists are like the visible part of an iceberg, ninety percent of which is submerged, keeping them afloat.

This regime of attention and vigilance assumes and gives rise primarily to a territory conceived less in terms of extendable or appropriated space than as an aggregate of relationships and entanglements. The fact of walking about a place and viewing it as the home of multiple living things, including humans, all of them inhabiting it, reminds us of Tim Ingold's lines, those that run along rather than cross from place to place, those that create a link with the territory where man settles, immerses himself, and with which he engages physically (Ingold 2007). The naturalist regime of attention inspired Ingold and his characteristically English phenomenological approach to walking; but the naturalist walker finds a match in certain species or categories of species as he goes. In the epilogue to *The Anthropology of Extinction*, Peter M. Whitely reminds us that the "identification of social difference through the metaphor of natural species differentiations may be the oldest game of culture—of the classification and ordering of experience into grids and networks of signification—in the world" (2012: 221). Whitely refers in this regard to certain attempts by contemporary citizens to "totemize" emblematic species whose rights to defense are accompanied by the slogan "we are not defending nature, we are nature defending itself." Whitely suggests that this may instance a new type of totemic thinking though without constituting a cosmology, to the extent that not all of society is structured by relations of exchange and identification between species and social segments. Without having to call on metaphorical games, or identifying with plant or animal species, or espousing an embryonic form of totemic thinking, one can nevertheless only be struck by the vigor of the link that connects naturalists to their chosen beings.

At the individual level, we have seen lives and manners of constructing selfhood anchored to encounters with birds or butterflies: unique and fragile moments of existence in which naturalists espouse other forms of life, such as bumblebees, decide to devote themselves exclusively to a buzzard territory for forty or so years, or concentrate on all the vascular plants growing in a single parish. The time devoted to following and observing a group of individuals belonging to a same species or, more generally, to different species within the same taxon, occupies a pivotal if marginal place in naturalists' lives. It may also involve associating one's name with a species sighted or inventoried for the first

time, or being recognized by close friends and other naturalists as a bat or moth person. Identity and individuation are thus involved, and it is a rare experience to see these notions unfold and be shaped in the bosom of a relationship forged with certain categories of plants or animals. The growth and education of English children from infancy; the disciplined work required to know, perfect, and singularize oneself; a person's deep-seated engagement with a singular form of life destined to become an essential, life-long connection—as if a bird or a butterfly resonated with an interiority—all this contributes to structuring the relation between fashioning a person and getting to know a segment of nature.

However, while this personalized, individuating relation to the living world is partly responsible for the construction of an individual identity, this never takes the form of a mystical union or the sharing of characteristics to which an identity can be attached. There is no becoming a butterfly or bird, though a connection and an education of the senses does allow one to enter their world and to establish forms of interspecies continuity. Furthermore, this is an activity that does not determine either a status, social position, or lifestyle; it occupies merely a singular niche, one that is ancillary albeit well regarded in English society. Thus, we are dealing with neither a cosmology, a consubstantiality of beings, nor a projective game, but with a regime of empirical knowledge in which the individual is the arch supporting and constructing the edifice of singular, remarkable, durable match-ups within which each of the parties can and must evolve in an independent and different manner.

These matchings have a history and testify to a particularly strong interest in certain categories of living beings: birds, butterflies, flowering vascular plants, living things that, even as early as the Middles Ages, escaped symbolization (unlike wild beasts, *bestia*, and domestic animals, *pecus*) and which appear in manuscript margins as ornamental motifs that artists endeavored to depict at least since the fourteenth century in the figurative style of truth to nature, as Pierre-Olivier Dittmar (2010) has shown. While the totality of so-called "wild" creatures is the affair of naturalists, the ones that have been studied primarily are those that have not been deemed to be of use or transformed into reservoirs of signification. These are species that are interesting in their own right and that capture attention because of the infinitely varied range of colors, shapes, textures, movements, attitudes, nuances, and particularities they present to the eye and, to a lesser degree, to the senses of hearing and touch. They are the "wonderful creatures" that have fascinated naturalists and around which empirical groups have gathered since the eighteenth century. That

these species are held to be admirable has no doubt something to do with the fact that they grace and freely populate "unprofitable" margins of the world, without any human being able to claim a use or paternity for them. It is in this sense that they are "wild": they are not remote and do not live on the edges of humanized areas, they are simply independent and different while remaining familiar and present, close to houses, villages, and roads. They inhabit interstices of freedom and beauty one can immerse oneself in; crannies to investigate, observe, and describe; moments when time seems suspended and the mind fills with wonder.

In itself, the desire to attribute names to that plurality of "useless" beings is remarkable. In a paper titled "Calling Creatures by their True Names," Erica Fudge (1999) examines Francis Bacon's project, at the dawn of the modern period, of founding a new rational and experimental science of nature that would consist in restoring man's sovereignty over other creatures insofar as he is god-like and is alone capable of calling things by their true names, like Adam in the early days of Creation. To capture by means of words—a human privilege—could indeed direct one to the semantic sphere of verbs of action such as to discipline, to tame, to order, to appropriate, to engender. Yet to name can just as well mean to recognize, to call, to make known, to summon, to create a relationship. Naming endeavors to identify species by means of formal classificatory criteria that allow naturalists to establish relations with these other forms of life. This leads to the strange paradox of an approach that assumes the exteriority of the world to investigate for the observing subject, but which simultaneously makes it possible to recognize that which is proper to it and can only be accessed by means of a sensorial experience which creates a bond and connects. Naturalist objectification does not delineate a mechanical world, one devoid of interpretation or intelligence, as Bacon proposed, but it does have the peculiarity of arousing an attention to the plurality of life-forms without that interest being justified or explained by other social practices (breeding livestock, producing food, gathering medicinal herbs, hunting, experimenting, and so on).

The outcome is a distinctive relational mode, one that is both distant and extremely intense. Visual and to a lesser degree auditory (for birds) contacts are given priority, even though the tactile dimension may at times be involved when identification requires briefly capturing a species, as with flying insects (butterfly net, ultraviolet light) and bats (nets), or inspecting plants with one's fingers or picking them carefully so as not to damage the roots. Such moments of contact have the fragility of fleeting encounters, and are all the more sought after and intense in that

they are brief, fugitive, and evanescent. They are moments of copresence when naturalists capture and are captured.

This reversibility—living beings themselves are attributed the power to make connection by means of the peculiar attraction they hold over the observer, like a love potion—does not require subsequent interaction. The reciprocity arises from the recognition of an agency: not only are plants and animals autonomous and have their own mode of action, they exist socially, have a name, and "speak" to the delight of those who have learned to listen to them, and are moved by them and transformed. Ways of observing and making inventories are in fact themselves affected by the kind of being the naturalist deals with: either he or she tends to be attentive over the long duration to plant resurgences being investigated locally, or, where birds or butterflies are concerned, the naturalist is on the lookout for their fleeting appearances here and there.

This manner of creating a symmetry does not take the form of an exchange, for plants and animals act on their own behalf and in their own world. Similarly, there is no need to invoke the intentionality of living beings to describe the tenor of this face-to-face encounter. The intelligence of Liz's plant communities does not arise from assumptions of this type. In this respect, Robin's manner of documenting the society of common buzzards is an extreme case. It involves forms of pronounced individualization of the birds, an attention to their singular behaviors and impromptu inventiveness, and a veritable acknowledgment of their intentions, feelings, even their states of mind. This ethological approach, which can be likened to a type of methodological individualism not frequently encountered in academic spheres but flourishing in the nonacademic margins, offers a consistent alternative to the "all-biological" and "all-functional" approach. It consists in endeavoring to seize and record that which is peculiar to a species and to that species' own perspective, without reducing it to a collection of bodies devoid of intelligence or an ethogram that could be understood without an interpretation or attempt at translation.

Robin is particularly drawn to the way buzzards form a society in a given territory, just as Liz is keenly interested in plant communities whose coherence and associations she makes visible on the territory of her parish. Their organization is anchored in the biology of the species in question (or what Robin calls their "innate" side). However, this does not mean that their reality is simple to grasp, for the behavior of living beings, though it obeys the general laws underlying that species' functioning, is never mechanical; above all it varies, depending on circumstances,

the environment, individual differences, and can give rise to particular arrangements, which are not accounted for by the finality of the ideas of the perpetuation and evolution of species.

It is this empirical attention to variations, to the specific, to particular events, to individuals, to the ways plants and animals work with what they are, where they are, and who they are that makes observation so fascinating and allows one to break with prosaic behaviorism and functionalist certitudes. This invariably involves diving into others' lives, immersing oneself for want of participating, understanding by experience, self-discipline, and imagination what it actually means to live like a bird or a plant.

Underlying this original approach is a graduated continuum capable of bringing out differences. It is mainly at this level that we speak of a symmetry between living beings, both human and nonhuman. Interestingly, this continuum is particularly visible in England. English naturalists constantly experience it and say so. They too are living creatures, members of a species among other species. Not only do they all share the fact of being born, growing, and dying, of possessing homologous vital organs, like a brain for mammals, or a common ancestry, they also have their own modes of collective organization, relations, mores, and characteristic ways of behaving.

The attention to "mores" arises if one subscribes to the idea derived from Darwin of a continuum in nature. This doubtless explains why naturalists pay so little attention to human exceptionalism, whether this means drawing distinctions between the innate and the acquired or pondering why, within the human species, so many variations can be seen and attributed to culture. The great divide I am speaking of is not disputed, but it is as though mitigated by the idea that humans are faced with the same problems as other species—feeding themselves, raising their young, protecting and perpetuating themselves, finding a mate—things that no two species do in the same way. Perhaps this is also why the differences I am referring to, whether anchored in nature or in culture, are viewed as forms of exoticism and otherness. The empirical method of naturalists can thus lead to undertaking an ethnography of birds and asking oneself questions fairly similar to those posed by ethnographers. As Vincent Leblan and Mélanie Roustan (2017) stress, in connection with remarks made by the ethologist Bill McGrew, "many intentions, values, norms, etc., attributed to humans in the course of an ethnographic investigation are not observed but inferred; from this standpoint, the attitude of the ethologist is essentially no different from

that of the ethnographer." The immersion and experiential engagement of the observer, combined with his or her efforts to understand reality from the standpoint of other beings, creates possibilities for an alignment and an intense connection against a background of shared nature, without any hierarchies or preponderant differences being considered or functioning as obstacles to sharing or knowing from within. Thus, by creating symmetries, it is possible to connect and for the observer to feel that he or she is a living being among other living beings without differences and asymmetrical positions being regarded as boundaries or hindrances but rather as challenges to understanding and to the many mysteries confronting them.

Also implicit in this continuum, perhaps, is the metaphor of a natural world that teaches about the reality of a shared world, in the guise of a harmonious community of free, independent, interrelated individuals and as an extension of the rural idyll, and a reflection of the autonomous situation of naturalists. Like the animals and plants with which they connect, English naturalists operate in fringe areas where they feel "free," happy, and unconstrained, like the creatures they fall in love with—not cows, dogs, or canaries, but butterflies, birds, flowering plants—all those wild beings that escape the injunctions and forms of domination that would transform and imprison them. Naturalists go about their tasks according to their elective affinities and with the idea that harmony arises from these chosen relationships. Of their own free will, they form a connection with beings that appeal to them, just as they associate with others to form empirically minded peer groups. They prefer a rapport based on affinities and mutual assistance, as that is what produces common aims over and above the different ways of being and different lifestyles, while simultaneously guaranteeing individual autonomy and independence. This point is doubtless an extension of a typically English social ideal based both on individual liberty and on a common ethic, combined with the idea that society forms a community that arises from the will and responsibility of different individuals who come together for this very purpose. Commonality can thus be created with widely different beings not considered equals (like plants and animals), as no doubt the relations and the sense of belonging they engender are more important than determinations and statutory or ontological attributions.

The idea of an "enlarged community," which I have not encountered in France with the same force and clarity, also explains the large number of English naturalists taking part in the surveys of biodiversity

conducted by trusts.[1] The crisis of the decimation of living beings lends a new significance to traditional inventories due to the breadth, gravity, and acceleration of a phenomenon that naturalists are the first to be sharply aware of. They feel it is their duty to bear witness to, to render visible and manifest this development—a task that requires as many participants as possible to assess precisely what is taking place from year to year on the micro, local, regional, and national levels. Their membership in trusts is nevertheless marked by a polite distance. This is not peculiar to naturalists, however, for a trust must remain a community organization in the service of the common good; true citizen governance loses its meaning and creates frictions when it comes to resemble an enrollment in the service of an institution and its representatives. However, the reluctance of naturalists also has to do with the fact that in general they do not consider themselves conservationists, even though they are deeply preoccupied by the future of the living world and take part in protecting it. The fact that they operate independently of research laboratories and professional conservationists is not alien to the way in which they watch over plants and animals with no equipment other than their own senses, their magnifying glasses, field notebooks, recording cards, and maps, without recourse to radio-tracking and the technological surveillance that Etienne Benson (2010) describes so well.

The naturalists' sense of moral responsibility is colored by their unique relationship with living beings: no intruding or supervising, no looking-down on nor speaking for. They hold themselves at a respectful distance, keep an eye open and attentive; they seek to know what survives and how; they worry and investigate tirelessly; they want these living beings to be recognized and valued, and to this end make them visible. Out of a sense of solidarity and equity (rather than equality), like good neighbors in an English village, they watch over these unobtrusive inhabitants that have too little room in which to live and breathe. Drawing up lists of species amounts thus to politicizing attention. Naturalists shake their head over the abuses of modernity, excessive consumption, the damage inflicted by intensive agriculture, and they aspire to a simple life in a

1. As Philippe Descola emphasizes, "I won't attempt to untangle the complex reasons that have helped to advance the emergence in certain countries of a proper moral approach to man's duties to the collectivity of the living and the intrinsic rights it might possess. Protestantism and its combined values of individual responsibility and community ethics have no doubt played a part in them" (2005: 268–69).

cottage extending into an immense country garden. Establishing a list of species is a way for them to be of service both to the living and to a collective and citizen-based knowledge to which each contributes according to his or her capacity, without being able or wishing to really answer the fatal question, "What is it all for?"

It is fortunate to be unable to answer such a poorly formulated question. The alarm bells set off by the decline of living species together with the growing weight of databases have given a new coloring to the work of English naturalists, who have systematized the practice of recording and inventorying in a quantitative perspective of keeping track of populations and species; they have also founded new groups, such as the Somerset Rare Plants Group, to collect and assemble records in a rational manner. A large number of scholars have studied the effects of this quantitative trend. For Patrick Blandin, "biodiversity has replaced nature. Protection has taken second place to management" (2009: 33). Given this situation, Isabelle Arpin, Florian Charvolin, and Agnès Fortier go even further: "The inventory, as a reflection and instrument of a neoliberal management of the living world," diminishes human depth, privileges connections to territory and forms of affective attachment, all in the name of standardization and the free circulation of naturalist data, reduced to numbers and removed from their context of production in order better to serve the globalized superintendence of biodiversity (2015: 12).

There is doubtless a paradox, or at least a contradiction, in dreaming of an "extended" community and participating, even cautiously, in such schemes of supervising and managing land and nature. Yet when one takes a closer look at naturalists' practices and the sense they attach to their participation, one understands too that their situated, sense-based knowledge is not annihilated and can even find fertile ground for future deployment. Jamie Lorimer (2008) makes the same observation in connection with the distribution of corncrakes (*Crex crex*) in England. Moreover, on taking a closer look at the way botanists in the Rare Plants Group produce and use data, one sees clearly that plants are not lifeless things in closed, unchanging systems. Data can also provide material for action, for organizing personal and collective tasks, and for opening up members to new explorations, as Lorna Heton and Florence Millerand (2013) have noted in connection with digitalizing herbaria. The process by which a material—a lump of earth, a plant—becomes a datum—part of a list of numbers, a dot on a map—can be compared to what Bruno Latour (2007) observes apropos of the work of scientists specialized in

soil analysis at Boa Vista: by walking around with a notebook, they extract but also transport a piece of the world from one place to another by means of a series of entries that are easier to handle and analyze.

Doubtless the greatest threat of impoverishing naturalist awareness does not lie in quantifying or in transforming field observations into data. Nevertheless, the prospect and future of such practices remain open to question in an era when classification and phylogenetic nomenclature are striving to win out. Naturalists resist this trend, since this organization of living beings based on partly invisible criteria would invalidate *in situ* identification and could even cast into doubt the very notion of biodiversity, which implies reliance on a certain morphological stability. Furthermore, the question of the renewal of generations also arises, not owing to a declining interest in identification—which, on the contrary, seems to be growing under the influence of conservation bodies and public census-taking programs—or to the increasingly widespread use of smartphone recognition software for plants (Pl@ntnet, iNaturalist, Plantsnap, etc.) or birds (BirdNET, Bird Song ID). The naturalists I encountered do not use them and remain skeptical about the potential for learning to look, for plunging into details, and immersing oneself with the help of these devices. If the reference type and the thing observed come together in the device rather than in the observer, how can a new perception of reality be built up, how can it be incorporated into the fabric of the living? Or are such programs just another artifact that neophytes will learn to dispense with in the same way that naturalists learn to do without field guides and printed illustrations?

The value of such doubts is that they underscore the singularity of the naturalist approach. If scientific practices that go back to the dawn of modernity are still alive, particularly in England, it is not only because they have encountered a historical and sociological context favorable to their development and because they have been able to make a niche for themselves in meaningful margins. The techniques for identifying and recording the manifold forms of life also show that they are a means rather than an end in themselves, a powerful means of connecting and establishing remarkable continuities with the living world. They create an unsettling mode of attention that is at once the firstborn of the modern relationship with the natural world and an antidote.

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