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***Drone***

*Foraging undoubtedly became easier once I started using drones. Before that I used to work up counts of 20,000 to 30,000 step on my health app. What it didn’t register was that I would also be carrying 10, 15, 20 – by the end often 25 – kilograms on my return trip to the car. Life was a tightrope walk between healthy exercise and total joint erosion. I was never sure which way it would go, but it didn’t feel as if this would be sustainable all the way up to retirement.*

 *A forager’s life is pretty predictable. It’s full on from May to November, then nothing for the remaining months. That’s why I logged onto the website of Norway’s Civil Aviation Authority in early December and booked myself onto Course RO3 as a “private individual: drone operator with a drone.” There was no reason to buy anything more expensive than the smallest and simplest model. What I needed was a low-flying drone with a good camera and decent protection to ensure that the propellers wouldn’t get damaged by twigs and branches – or, in short, a drone I could afford to lose it if anything went wrong.*

*And that’s how my step count tumbled from top of the charts to the level of an average office worker who only uses his legs on the walk to and from work. I sat in my car on the edge of the forest and directed the drone through the woods, gradually becoming an expert at steering it between the trees a couple of metres above the ground. In the early years, I would take note of the coordinates, then march purposefully into the forest to gather my foraged raw materials. It felt like going to the store with a carefully-thought-through shopping list.*

 *But things really took off when I hooked the drone up to the various image-recognition databases: Artsorakel, iNaturalist, PlantNet. I programme the drone to look for things I think I’ll be likely to find that day, things of value to me. Now it pings every time it spots a field of sweet woodruff, or wild garlic or sweet chervil – whatever is most in demand on that particular day.*

*With every ping, the images appear on my computer and I assess how much I can permit myself to pick. Then I upload this information to my deals app, instantly informing chefs and customers about today’s wares. With a keystroke they can place an order and the items will be delivered that same afternoon, with the invoice automatically generated by my accounting programme. This has simplified things splendidly.*

*The drone gives me oversight of an area that I could otherwise only have covered with a large search party. I soon realised that there was a lot in there, much more than I could have believed. That’s why I joined forces with a farm relief worker agency that specialises in the strawberry-picking market, hiring in skilled assistants who could roam the forest while I took care of the technology. They hiked through the forest, with the drone linked up to the navigation app on their mobile phones. After an hour or so of foraging, they would return and load their haul onto the refrigeration trailer, which was hooked up to the outermost power outlet I could find near the edge of the forest. It was efficient, and the quality of the products couldn’t have been better.*

 *Instead of spending 12 hours a day earning a woeful daily wage, I could now continue my 12-hour days without wearing myself out – and make a decent annual salary into the bargain. After subtracting my investment in drones, refrigeration system and financial services, I should be left with a certain amount of money. The margins in this economic sector are small, and I still have to live with the uncertainty from year to year. After all, even drones can’t find mushrooms and plants when they aren’t there.*

**The modern forager – from supplementary food sourcing to knowledge communication**

Who do you picture when you hear the word “forager?” The Stone Age man gathering nuts, the scout leader on your childhood lingonberry-picking trips, or a tattooed hipster filling his basket on a roadside verge? All of these fit the bill. Of course it would be interesting to take a deep dive into these types and discuss the cultural history of foraging in general, but that’s another book. What we’ll be doing here is trying to define the forager of the future and the role he or she will have to take on in order to harvest sustainably in a world where natural resources are dwindling –in both diversity and land area – and where food security is close to becoming an obsession. It will deal with both hobby and commercial foragers.

The current received wisdom about foraging is stated in countless books and articles: the tradition of foraging for food is dying out with today’s older generations. New foraging is the preserve of an urban elite keen to adorn their dinner tables with unique food trophies that cannot be bought in the shops. Seeking out supplementary food used to be about finding enough sustenance to see your family through the winter; nowadays the raw materials obtained through foraging are richer in cultural capital than in nutrients.

But this is only a partial truth. In many countries, even in Europe, the old foraging traditions live on. People build up a store of food for the winter as they did in years gone by. Many earn a living as foragers because it’s one of the few sources of income where they live. If the social divides continue to widen, foraging as a livelihood will also persist among both young and old in the poor segments of the economy, where people have badly paid jobs or are unemployed.

We can also glimpse the contours of a new group of foragers, whose motivation is not to store up food for the winter or to adorn their tables, but to secure *healthy* food for themselves. These foragers are motivated by scepticism about industrial food and modern, intensive agricultural methods that involve monocultures, pesticides, artificial fertilisers and genetically modified species. Their attitudes go hand in hand with an interest in organic farming, natural medicine and an alternative lifestyle. In this grouping, mushrooms are also embraced in a novel way, as a new superfood rather than just a few porcini for your risotto.

Cutting across all this, a new trend in foraging has also emerged – urban foraging: people do not roam far out into nature to gather their foraging haul but find what they need right around the corner of their house, in their garden, in the local patch of woodland, in parks and city forests. People gather food on their way home from work or the shops, before or after kindergarten. We also see an interest in urban agriculture, where people are just as likely to cultivate wild plants as classic food plants. The food must be fresh and easily available, not necessarily organic.

All in all, this increased interest in wild food has also led to an expansion in the market for commercial foraging. Not everyone can forage for themselves. There has long been a niche for forest products, especially mushrooms and a handful of plant species, for local market stalls and restaurants. Nowadays the market is much larger and encompasses many more species. The restaurant sector, with gourmet chefs in the vanguard, is on an insatiable quest for new tastes and new textures, but we also see that regular consumers are starting to follow suit.

Consequently, we are seeing a clear shift in commercial foraging – a shift from the classic forager, who is more or less commissioned by buyers to routinely gather the same items each year as in previous years, to the new foragers, who are equipped with in-depth knowledge of biology and ethnobotany. Modern foragers are knowledge workers, always on the supply side, directing their efforts at customers who don’t really know what they want themselves, other than that it must be new and different.

**Who are the foragers and why do they forage?**

Foraging is the search for wild plants, kelp, seaweed, berries and mushrooms that will be used as food. Many people also gather shellfish, snails and seafood from the seashore when the opportunity arises. It is obvious yet somewhat vague too. One important reason for writing this book is that the forager represents a field of knowledge that is worth describing and explaining more clearly. Whereas hunters and anglers stalk and sneak up on their prey and always use various tools and tackle to catch it, the forager walks about with eyes wide open and the minimum of equipment. Fishing and hunting are established activities that are strictly regulated by laws and restrictions on seasons, size and how much prey can be bagged. The economics of hunting and fishing is also entirely different from that of foraging: you have to buy a fishing permit or a hunting licence, take a hunting test, produce health certificates and so on before game can legally become food. Foraging is free and unregulated on the whole – for now.

The starting-point of this book is Norway, but against a European backdrop. There are considerable differences between the various foraging traditions in Europe, especially among commercial foragers. In Norway and the other richer countries, commercial foragers are knowledge workers who forage one day, teach on the next and research new flavours on the third. In poor European countries, foragers are more likely to be motivated by the sheer need for income and are at the mercy of a complicated food chain over which they themselves have very little influence.

Despite these fundamental differences, I would claim that foraging tends to attract many of the same types of people. I have seen this not only in England, Bulgaria and the USA, but also in Norway. The field is dominated by people who are far from conventional, who cultivate a sense of freedom and of being their own boss. This is definitely related to the fact that foraging – at whatever level people practise it – is one of the last few free professions in the world. You can decide to forage yourself, without having to ask anyone; you can forage for an hour, a day, or night and day, and you don’t usually have a boss hanging over you or placing demands on you. You are often paid directly in cash or via money transfer apps.

It is easy enough to distinguish between the various types of foragers on paper. In reality, though, the lines are blurred. Still, I shall try to propose some categories.

All are united by the practice of foraging: the hunt for wild food. But when you see what motivates people to pursue foraging, a greater variety emerges. It may be the haul itself, measured in terms of how many kilograms you take home with you. It can be the monetary value of the haul, earned through selling it or saved because you don’t have to buy something else. It can be the forest hike, combined with the fresh air and the thrill of the hunt. Everything can play a role, from being happy that you’ve burned a few calories to the eco-philosophical experience of being close to nature.

Recreational foragers pursue foraging as a secondary activity alongside the primary aim of spending time in the fresh air. Their activity generally involves mushrooms rather than plants. “A lot of” mushrooms may be a kilogram of chantarelles or five fine porcini. Hobby foragers tend to follow fixed routes and to remember where they found mushrooms last time, but get sad if they aren’t in the single place they check. Raspberries are something they eat straight from the bush in the forest, and the entire haul they bring home is generally used almost immediately for that year’s fried mushroom sandwich or perhaps a nettle soup. Somewhat blurring the boundary that separates them from supplementary food foragers, some hobby foragers choose to make particular days of the year pillars of their existence: the mushroom hike, the blueberry hike, the wild garlic hike. Hobby foragers have no clear relationship with the landowner or the times of year when a plant can or should be harvested, and make the simplest and most direct use of their haul.

Subsistence foragers are more purposeful, and unlike hobby foragers, they prepare their haul prior to freezing it or making semi-finished products that can be enjoyed throughout the year. Generally, they forage much higher volumes. People have their regular “chantarelle spots” and become extremely frustrated when someone else has already been there. It’s “my” place, after all! The picking spots may have been in the family for a generation or two, and are often in an area that isn’t very far from their home address. Supplementary food foragers generally spend a long evening and night processing their haul once they’ve gathered enough. This processing always takes place in their own kitchen. Supplementary food foragers like berries, mushrooms and wild garlic, and they have good routines, as well as recipes and methods for preserving their haul. They are disappointed when they get a poor haul.

Professional foragers are all those who sell part of their haul to restaurants, wholesalers or private individuals. Several also produce products which they sell privately on REKO rings – independent marketplaces where local people source directly from local food producers – or to stores and wholesalers. Still, for most, foraging is a secondary source of income, and many also work as teachers or guides for a paying public. Professional foragers are willing to travel a lot and spend long days out in nature. If they don’t find anything in the first place they visit, they continue to the next and the next and the next. To varying degrees, they also either own or have access to the equipment/set-up needed for cleaning and sorting their haul. There are always new species to try out, too, and preparation techniques to test. Professional foragers work systematically to build up a portfolio of foraging locations and have no problem asking the landowner for permission to forage.

Lifestyle foragers are interested in clean food that is locally sourced and harvested. Wild food is packed with important nutrients – minerals and vitamins – that are lacking in industrial food produced using raw materials from non-sustainable agriculture. These foragers are more knowledgeable about and interested in edible plants than mushrooms. However, mushrooms and mycelia as organisms have a mythical aspect that fascinates them, and may also be “superfoods” that contain large amounts of minerals and trace elements. Edible plants are used in vegetarian recipes but are also dried for use as teas and the like. The interest in wild food goes hand in hand with the choice of organic raw materials, and self-sufficiency in the strictest sense of the word is an aim in itself. The lifestyle forager is rarely a large-scale forager. The aim is for the distance and time between foraging and food on the table to be short.

**Foragers as custodians of nature**

Over the past decade, Europeans have experienced a new and more widespread interest in foraging. The new foragers have a lot to thank the New Nordic Cuisine movement for. This was never a formal organisation, but rather a group of individuals with a great and profound interest in food. Their 2004 manifesto, *Ny Nordisk Mad* (New Nordic Food) eventually created a market for and understanding of the significance of obtaining raw materials from nature. Foraged goods have acquired a positive aura, even though it’s not all good news. We hear about over-foraging. There are rumours of “gangs” who thoughtlessly strip areas of everything of possible value. We also hear about chefs and their friends who hike as short a distance as possible and take home as much as possible. All these things may well happen, but they are marginal cases and often associated with the pressure on foraging areas close to towns and cities.

Nonetheless, the trend is clear. Modern foragers must have more genuine knowledge of and interest in nature and ecosystems than any foragers previously needed. Nowadays, foraging requires a 360° overview of the world in which the forager is operating. Foragers go out into their foraging landscape like farmers going into their fields: what can be harvested here? How much? When is the quality best?

In this way, modern foragers become custodians of nature’s bounty.

Supplementary food foragers and professional foragers are relatively similarly placed in this context, in that both build up a portfolio of locations from which they forage their raw materials. It is a time-consuming and difficult task, and the degree of success is what sets apart the best from the good. Both groups see variations from year to year in what they forage. They know they need to source from many alternative places in order to be able to deliver. Consequently, they also wish to protect these places, so that they can come back the following year. Both types of foragers would speak out if they saw signs of excessive or ignorant foraging, because that jeopardises the entire basis of their activity. Increasingly, this is also something they will have to be able to document.

Lifestyle foragers have a more general and basic knowledge of locations, while hobby foragers only pay short visits and won’t necessarily return to the same spot. No one is placing any particular demands on them; they are random tourists in nature. Both groups also take so little with them that it is barely meaningful, even though, of course, we will see an increasing tendency for locations near towns and cities to be over-harvested by hobby and lifestyle foragers, who only go the very shortest distance to get what they need.

Although it is sad that populations of sought-after edible plants are under threat in towns and cities, the plant as such will rarely be threatened. We need to stay cool-headed and not buy into the media’s tabloid polarisation, even when it serves our interests.

The United Kingdom has always been among the least liberal countries when it comes to the right to roam and it is also here that we have seen several local cases that could become typical if the right to harvest were restricted elsewhere in Europe. Several years back, Bristol City Council in England presented the following proposal: *“No person shall without reasonable excuse remove from or displace within the ground any stone, soil or turf or the whole or any part of any plant, shrub or tree.”* At the same time, mushroom-pickers were arrested and fined under local regulations after foraging perfectly ordinary mushroom species in Epping Forest, north-east of London.

In both Bristol and Epping Forest the grounds for this prohibition on picking is nature conservation: Picking is seen as a threat to the ecosystem. But there is no particularly sound basis for this and one can also see elements of a different argument related to aesthetics and experience. We are supposed to experience nature in its most natural possible form, from fragile shoots until the point when the plant rots. No individuals should be able to remove something that everyone hikes past and is supposed to have a chance to see. While that may at first look like a social and democratic principle, there is also a poorly concealed element of overprotection. It’s like turning nature into a museum where we can go and look but never touch.

The British examples are extreme expressions of the intersection between attitudes towards foraging. My aim in this book is to establish what and how much we can forage. In my view foraging is fundamentally healthy and positive, and society must set things up to ensure that people can forage as freely as possible, as long as it is sustainable. Sceptics would rather exercise restraint – on perfectly good grounds: Humans have never been particularly humble when it comes to the value of nature, nor have they tended to base their actions on long-term, global perspectives. Maybe much of this boils down to our view of humanity; whether we believe in or doubt humanity’s will to be good. I tend towards the former.



[English chart labels: x axis: Number of species; y axis: Changes in land use, Pollution, Other and unknown, native species, climate change, invasive species, harvesting.]

*Factors affecting threatened species in mainland Norway, including surrounding seas, sorted by the number of species affected. Artsdatabanken* [*CC BY 4.0*](https://creativecommons.org/licenses/by/4.0/deed.no)

**Foraging in the Anthropocene**

If we simplify the challenges facing the modern world, two large and paramount issues stand out: climate change caused by humans’ use of fossil fuel and the destruction of nature as a result of our eternally increasing need for space for infrastructure related to transport, the production of goods and housing, for agricultural use and timber production. Artsdatabanken (the species database) has published some interesting statistics that reflect how these factors potentially affect biodiversity – originally intended as a basis for red-listing species.

Harvesting does not loom large in the statistics, whereas change of land use does. Change of land use resulting from human activity is the single factor that clearly affects most species. In Norway, that applies to 90 per cent of the threatened species. Significant encroachments have taken place in Norway over the past fifty years. The greatest threat comes from legal activities, such as physical inroads into land areas: we’re talking about clear-cutting in the forestry sector, about a Norwegian public administration that approves plans for regulation and building developments – new projects, waived restrictions etc – that convert nature into roads and buildings. The encroachment need not necessarily make inroads into an especially large expanse; it may be just as destructive when a highway divides a forest in two. It creates an imbalance on both sides.

Changes like this are so great that many believe we are at a watershed in geological eras – that the world is on the threshold of a new epoch. And we’re not talking about some ordinary centenary here: there are tens of thousands and millions of years between each epoch, and now we are standing with a foot in each of two different periods. The current epoch is the Holocene, which started 12,000 years ago. The Holocene is typified by steady, mild temperatures over large stretches of the planet. It was this epoch that saw the agricultural revolution, the emergence of cities, states, written language and everything else that we now call civilisation.

The epoch we are heading into has been named the Anthropocene, or *the epoch of humans*. Comprehensive changes are now occurring on the face of the earth as a result of human activity. When did it start? The industrial revolution and human-caused global warming have been suggested, but the radioactive fallout from the atom bomb tests of the 1950s are starting to stand out as a milestone. In that case, the detonation of the first atomic bomb in 1945 may be a good place to select as the beginning.

The concept of the Anthropocene has been discussed in fields such as social sciences, history, philosophy, literature and art. Much of it is about “the end of nature.” Climate scientists are now discussing the likelihood that the earth’s systems will cease to be subject to the stable environmental conditions of the Holocene, with consequences that will be damaging, if not catastrophic, for large parts of the world. Environmental philosophy deals with humanity’s relationship to nature. Much of it is dystopic – the Anthropocene is all about a heightened objectification of nature – whereas eco-modernists think that humans can take over control of nature.

Of course there is nothing new about humans changing the physical landscape. Nor is it exclusively negative when we do so. We have, for example, the paradox whereby human-created cultural landscapes, which have come about over thousands of years, are themselves now worthy of conservation and require protection against both encroachment and overgrowth. By cultural landscapes, we mean pastures, hayfields, coastal heathlands, forest gardens and other types of nature that have evolved, in particular, as a result of animal husbandry – either because animals have grazed there or because plants have been mown for use as animal feed. These landscapes have provided good conditions for plants and insects that need open spaces with plenty of light. When the cultural landscape goes, the diversity of flowers disappears with it, as do the insects that depend on these flowers. For foragers, these are also rich areas, with plentiful raw materials to gather.

It remains to be seen whether the Anthropocene will be approved as an epoch. The International Commission on Stratigraphy is on the case. But might it not be presumptuous of humans to approve a new epoch when we’re in the thick of it? Or is what is happening so obvious that we must hurry to adopt an understanding of the changes that will give us a chance to stop them.