



Root and branch inquiry

Our tangled links with plant life intrigue **Oliver Moody**



What Have Plants Ever Done for Us?

Western Civilisation in Fifty Plants
 by Stephen Harris

Bodleian Library, 224pp
 £14.99 * £13.49

Back in the days when magic still stalked the earth, getting a mandrake root out of the ground was an awkward business. As all the best Latin sources attested, the vaguely human-shaped tuber would utter a piercing cry that was death to any man stupid enough to uproot it. Fortunately for herbalists, John Gerard recorded the folk wisdom on how to do it in his *Generall Historie of Plants*, first published in 1597: take a string, tie one end to a dog and the other to the stalk, and run like hell. Sod the dog.

You could put together a pretty comprehensive history of civilisation that consisted entirely of us making fools out of ourselves over one plant or another. Start with wheat. Go back just 14 millennia and this undistinguished bastard child of Mesopotamian goat grass actually had to scrap for its existence. Then it acquired the most convenient parasite in the animal kingdom — humans.

We like to think our Neolithic forebears shaped wheat through generations of artificial selection. In fact, it also shaped us,

through satiety and softness, shrinking our spines, lightening the colour of our skin and making our jaws and teeth dwindle. The average man today is about 3cm shorter than his hunter-gatherer ancestors.

Wheat, on the other hand, has got it made. We feed it. We spread it around the globe. We destroy its predators with chemicals.

What have plants ever done for us, wonders Stephen Harris, the curator of the University of Oxford's herbaria. The answer, spread out over 50 brief chapters each dedicated to a different species or genus, turns out to be an odd mixture of submission and mastery. Submission, because if some Alpha Centaurian Richard Dawkins had landed on Earth at pretty much any point since man first sowed seeds, he would have been hard pressed to tell which species had subjugated which.

Near the end of the 17th century, the Dutch East India Company swapped with the British an unprepossessing American island called New Amsterdam for the spice island of Run. Run is in the only archipelago in the world where you could find a

handsome evergreen tree with yellow fruit that promised all the nutritional value of MDF. Three hundred years later, the only winners left from that deal are New Amsterdam, now the richest city on the planet, and *Myristica fragrans*, which now grows throughout southern Asia and whose dried seeds we call nutmeg.

Mastery, for much more obvious reasons. Humanity's knack for imposing its will on the plant kingdom has been one of our greatest assets. There is a school of thought that holds farming to blame for the downfall of the human race. The historian Yuval

Noah Harari argues that the farming revolution was our expulsion from a nomadic Eden, narrowing our diets and driving us to work longer hours.

It's nonsense. If we die older, sleep longer and take better care of one another now — which we do — it is due to our ability to accumulate and exchange value, starting with calories. It is no accident that the first known currency, which appeared in Sumeria in 3000BC, was barley grains.

Harris is bothered that today "we are too often inclined to think of [plants] in personal terms as accessories rather than main-



stage players: the components of a garden, or garnish on a dish of more interesting fare". He has a point. Plant scientists such as Harris are a rare breed in Britain these days.

Yet their work is as important as ever. This year half the Nobel prize for medicine went to Youyou Tu, whose resurrection of a compound called artemisinin from a Chinese herb has saved millions from dying of malaria. Even the fuel tanks of space shuttles are swaddled in panels made of cork oak bark. There is a powerful book to be written about the importance of mankind's quiet reliance on plants in the modern world. Unfortunately, this workmanlike collection of largely antiquarian trivia is not it.



DOG GONE How to pluck a mandrake root from the ground



Stephen Harris ponders the question *What Have Plants Ever Done For Us?*

What is the premise of your work?

This book is about 50 plants that have made multiple contributions to all facets of Western civilization since the last Ice Age. The roles of plants are frequently surprising, often overlooked and hardly ever mundane. Each portrait brings together art and science to illustrate particular points for a specific plant or group of plants. The portraits are arranged in a chronological sequence showing when the plant first made significant contributions to western culture.

What inspired you to choose this subject?

I was challenged by the publisher. For a general audience, could I show whether plants had made any contribution to Western civilisation? Once the seed was planted, it became obvious that to make the case, the science of plants could not be ignored. The aim could probably be achieved through short profiles of 50 different plants, illustrating the multifarious uses to which we have put them, together with the relevant science.

How did you select the plants?

The plants chosen are not necessarily the most important in Western civilization. Each plant had to earn its place by making multiple points. My initial

shortlist of 200 was gradually pruned, although even late into the writing process last-minute substitutions were made. Once I had made my choices, I asked colleagues what they would have chosen; I was relieved to find about 60% of those on our lists were common. The result is a personal, perhaps idiosyncratic, selection of plants; some familiar, some unfamiliar and some a little quirky.

Which plants have been particularly important?

Barley was domesticated from a common grass in the Fertile Crescent, a region in contemporary Middle East, and was the staple food for Western cultures for thousands of years. Barley helped people understand chemistry and domesticate yeasts, enabling the transformation of low-value raw materials into high-value products. Barley grains were important in developing currency systems and the standardisation of units of measurement. Today, barley quenches our thirst for alcohol and is an international commodity and animal feed. At the other extreme is thale cress, a weed that is useless as food or medicine but has become a model for understanding all aspects of experimental plant sciences.

What might readers find surprising?

That 60% of our average calorie intake comes from just four species for grass: wheat, rice, maize and sugar. That some plant uses have changed dramatically: for instance, yew - a weapon of armed conflict 200,000 years ago - graduated to topiary and is now a source of cancer-fighting drugs. That woad, quinine, rubber and tea helped establish and consolidate European empires. That much of the world's great art was funded from fortunes created by trade in plants such as pepper and nutmeg, and that millions of people were killed by the trade of rubber plants.

Which plants were of particular interest to you?

I have been thinking about the issues raised in this book for at least 25 years. Consequently, all of the plants had their own fascination. However, delving into the chemistry of alliums, the culture of the rose, the adulteration of food and drugs, the Victorian enthusiasm for coconuts and the politics of soya was particularly interesting.

What did you want to achieve with this book?

The aim was simple: to encourage readers to look at the plants surrounding them differently and to realise that each plant has its own and often quite surprising story. ■



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