The Notebook

A HISTORY OF THINKING ON PAPER

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The Notebook

A HISTORY OF THINKING ON PAPER

Roland Allen

PROFILE BOOKS

For my father

Contents

THE NOTEBOOK

Introduction

An apt place to open the story: an Italian, on a boat, in the Mediterranean. In the summer of 1995, Maria Sebregondi was mulling over a knotty question, sailing with friends off the Tunisian coast. At thirty-six, she had already enjoyed a fruitful career, translating Marguerite Duras, Samuel Taylor Coleridge and Vladimir Nabokov into Italian. She was particularly intrigued by the French pair of Georges Perec and Raymond Queneau, who wrote novels and poetry using formal constraints as a spur to creativity. Perec had written an entire novel, *La disparition*, without using the letter 'e'; in *Exercices de style*, Queneau told the same simple story in ninety-nine versions, using a different prose genre for each one. They called their playful genre Oulipo, an acronym derived from the French for 'workshop of potential literature'. So Sebregondi was accustomed to the generation of ideas within set parameters, and on this particular sultry evening she was presented with just such a challenge. Her holidaying shipmates included Francesco Franceschi, a friend whose company Modo & Modo sold designer gifts, and that night he shared a problem. His business depended on other people conceiving and manufacturing products for him

to sell, which kept profit margins low. What, asked Franceschi, could Modo & Modo manufacture themselves, and thus sell more profitably? The group exchanged ideas long into the night, discussing emerging trends like mobile phones, email and cheap flights. They decided that the consumer they wanted to target with a hypothetical new product belonged to this new era: creative, free-spirited and mobile. Sebregondi labeled their design-conscious customer the 'Contemporary Nomad'. But before any of the party could work out what to manufacture for them, the holiday was over and she had returned home with her children to Rome.

The question nagged at her for weeks, and she toyed with ideas, including a traveller's toolkit which would include exquisitely designed pens, bags, T-shirts, penknives and so on. Nothing met the requirements of Franceschi's brief, which demanded a product that would be easy to produce, yet offer wide commercial potential. Then she came across two passages in the book that she was reading for pleasure: *The Songlines* by Bruce Chatwin, a global bestseller since its publication eight years before. In the novel, a lightly fictionalised version of Chatwin explores the Australian outback, coming to understand that its aboriginal culture offers an insight into the origins of human culture, and perhaps into the restlessness of human nature itself. Conspicuously 'creative, free-spirited, and mobile', Chatwin himself seemed a perfect fit for the 'Contemporary Nomad', and two passages in his novel triggered Sebregondi's memory:

> *'Do you mind if I use my notebook?' I asked.*
>
> *'Go ahead.'*
>
> *I pulled from my pocket a black, oilcloth-covered notebook, its pages held in place with an elastic band.*
>
> *'Nice notebook,' he said.*
>
> *'I used to get them in Paris,' I said. But now they don't make them any more.'*
>
> *'Paris?' he repeated, raising an eyebrow as if he'd never heard anything so pretentious.*
>
> *Then he winked and went on talking.*

Later in the book, Chatwin expands on the story.

> *Some months before I left for Australia, the owner of the papeterie said that the* vrai moleskine *was getting harder and harder to get. There was one supplier: a small family business in Tours. They were very slow in answering letters.*
>
> *'I'd like to order a hundred,' I said to Madame. 'A hundred will last me a lifetime.'*
>
> *She promised to telephone Tours at once, that afternoon.*
>
> *At lunchtime, I had a sobering experience. The headwaiter of Brasserie Lipp no longer recognised me, 'Non, Monsieur, il n'y a pas de place.' At five, I kept my appointment with Madame. The manufacturer had died. His heirs had sold the business. She removed her spectacles and, almost with an air of mourning, said, 'Le vrai moleskine n'est plus.'*

This passage had struck many of Chatwin's readers; its intimations of mortality seemed to foreshadow the author's premature death only a year and a half after *The Songlines*' publication. But to Sebregondi it meant something more personal, because she recognised, from her time as a student in Paris, the notebooks Chatwin described. Indeed, she still had several. Digging them out of old boxes, she looked at them for the first time in years, and with new eyes. Why had Chatwin become so attached to this particular model that he would order a hundred rather than risk running out? How could such a utilitarian object assume such importance? Then it struck her that she might have hit upon a solution to Franceschi's challenge – a simple product, easy to manufacture, appealing to creatives and imparting promises of travel, of glamour, of discovery.

Phone calls to France confirmed Chatwin's account (a sensible move: Chatwin always preferred a good story to the literal truth),

Maria Sebregondi, literary translator, Chatwin enthusiast and originator of the modern Moleskine notebook for the 'contemporary nomad'.

and Sebregondi's hunch was confirmed by serendipitous sightings of *le vrai moleskine* in other contexts: exhibitions of Matisse and Picasso's sketchbooks, a photo of Hemingway at work. This product, she realised, already had a pedigree. More to the point, it had commercial promise, for millions around the world had

already read Chatwin's endorsement. It even accorded with the classic principles of Italian design: like an espresso, a pair of Persol sunglasses or a Prada dress, *le moleskine* was minimal, functional and assertively black.

And yet, miraculously, no-one made it any more.

Sebregondi took the idea to Milan, where Franceschi realised that she was on to something. With Chatwin having already solved the thorniest problem faced by anyone marketing a new product (what to call the damn thing), the pair entered into what became a two-year process of product design, which resulted in the classic Moleskine notebook.

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You don't need me to tell you what a Moleskine looks like, but you may not have considered how insistently its design sends messages to the 'Contemporary Nomad'. The minimal black cover looks, at first glance, like it might be leather: robust, but also luxurious. The non-standard dimensions, a couple of centimetres narrower than the familiar A5, let you slip the notebook into a jacket pocket, and the rounded corners – which add considerably to the production cost – help with this. They also stop your pages from getting dog-eared and, together with the elastic strap and unusually heavy cover boards, confirm that the notebook is ready for travel. The edges of the board sit flush with the page block, ensuring that your Moleskine can never be mistaken for a printed book. In use, it lies obediently open and flat, and the pocket glued into the back cover board invites you to hide souvenirs – photos, tickets stubs, the phone numbers of beautiful strangers. Two hundred pages suggest that you have plenty to write about; the paper itself, tinted to a classy ivory shade and unusually smooth to the touch, implies that your ideas deserve nothing but the best, and the ribbon marker helps you navigate your musings. Discreetly minimal it may seem, but the whole package is as shot through with brand messaging as anything labelled Nike, Mercedes or Apple – and like the best cues, the messaging works on a subconscious level.

But in case those cues alone were not enough, Moleskine spelled out its brand values in the small folded leaflet which the notebook's new owner would 'discover' – as Sebregondi tellingly puts it – tucked in the pocket. The leaflet's copy has evolved over time, and more and more languages have been added to it, but the central message has changed little from the early, Italian-only, version:

> *The Moleskine is an exact reproduction of the legendary notebook of Chatwin, Hemingway, Matisse. Anonymous custodian of an extraordinary tradition, the Moleskine is a distillation of function and an accumulator of emotions that releases its charge over time. From the original notebook a family of essential and trusted pocket books was born. Hard cover covered in moleskine, elastic closure, thread binding. Internal bellowed pocket in cardboard and canvas. Removable leaflet with the history of Moleskine. Format 9 x 14 cm.*

The leaflet opened with a lie (the new Moleskines were not 'exact reproductions of the old') then immediately veered toward gibberish, but that didn't matter. Pound for pound those seventy-five words proved themselves one of the most effective pieces of commercial copywriting of all time, briskly connecting the product's intangible qualities – usefulness and emotion – to its material specification, thereby selling both the sizzle and the steak. Sebregondi and Franceschi picked an astutely international selection of names to drop: an Englishman, an American and a Frenchman encouraged cosmopolitan aspirations. 'Made in China', on the other hand, did not, so they left that bit out.

Modo & Modo ordered the initial production run of three thousand notebooks in 1997, and the new Moleskine first went on sale in Milan, in a small bookshop on the Corso Buenos Aires. It sold through its consignment in days. Avoiding traditional stationers, the company targeted design retailers and bookstores: the strategy worked, and in 1998 they sold thirty thousand notebooks. From

1999 they used their existing networks to distribute around Europe and then across the Atlantic. Within ten years, the American chain bookseller Barnes & Noble had become the brand's largest retail partner. Just as Franceschi had hoped, the high profit margins transformed Modo & Modo's fortunes. In 2006, a private equity firm bought him out, and sales continued to grow. In 2013, the Moleskine SpA launched on the Italian stock exchange, and in 2016 a Belgian car distributor bought the company outright, for half a billion euros. Small wonder that the story is now taught in business schools as a textbook example of successful product design and marketing. In 2017, the story came full circle when Moleskine and Chatwin's publisher struck a deal to publish a new edition of *The Songlines*, bound in the now-familiar black boards, complete with elastic closure, rounded corners, ribbon markers and pocket. You bought it shrink-wrapped to a blank journal, embossed – in a gesture which Chatwin would surely have recoiled from – with the motivational boost 'Enjoy your travel writing'.

Sebregondi herself stayed relentlessly on message for two decades, giving scores of interviews whose recurring theme was that the Moleskine was 'first of all, an enabler for creativity'.

Having stayed with the business through its various incarnations, she stepped back in 2017, and currently gives her time to the charitable Moleskine Foundation, which aims to drive social change, especially in sub-Saharan Africa and Eastern Europe, through – naturally – creativity. She also remains involved with Oplepo, the Italian offshoot of Oulipo. Her most recent translation is of Raymond Queneau's *One Hundred Thousand Billion Poems*, in which the reader randomly generates sonnets from the book's thousands of rhyming lines: constraints proving creative.

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I bought my first Moleskine during the early years of that boom, and a while later found myself working for a book publisher keen to share in the Moleskine-driven growth of the upscale stationery market. Notebooks, we reasoned, had no words and no pictures – the tricky, expensive things that make 'real' books so difficult to profit from. How hard could it be to cash in? So we created a range of notebooks, brightly designed and packed with gimmicks, and placed a substantial order at the printers. I was charged with visiting Barnes & Noble's Fifth Avenue head office to present our wares, and suggested that our colourful product could supply healthy turnover if racked alongside Moleskine in their stores.

The buyer eyed me sceptically. 'Along with the Moleskines,' he said. 'Do you know, there's a section of our customer base that buys a fresh Moleskine every time they come into a store? Once a week, some people. We have no idea what they do with them.'

I showed off my samples, stressing the cream paper, the ribbon markers and the striking cover designs that supposedly set our brand apart. He shook his head, and handed me a familiar black notebook in response. 'See this?' he said. 'We make them ourselves, own-brand. The same size, the same number of pages. We use the same paper, the same boards, we make them at the same plants in China. They're every bit as good as a Moleskine, and we ask half as much for them.' He paused for effect. 'And Moleskine still outsells us. And you're asking me to take shelf space away?'

I was learning a hard lesson about the power of the brand. Others, however, made a better go of it. From 2005 Leuchtturm, whose speciality had been stamp collectors' albums, took on Moleskine, matching them for quality while offering – the impudence! – a range of colours; older companies like Clairefontaine, Rhodia and Paperblanks refreshed their offering. Western hipsters, always alert to high-end Japanese design, started to import notebooks from companies like Midori, Hobonichi and Stalogy, which bested any of the European brands with their exquisite papers and bindings.* In the US, Field Notes struck a utilitarian chord with a mid-century aesthetic. All presented a fresh spin on the basic product, and all benefited from the product-building that Moleskine had done. If you cared for upmarket stationery, the 2010s were a golden age.

At the same time, the Moleskine became a potent status symbol. Tech CEOs toted them, as did the designers, journalists and writers whom Sebregondi had envisaged, and even more people whose aspirations perhaps outran their actual creativity. Spotted in your local Starbucks, these characters were easily mocked: the satirical website *Stuff White People Like* made hay with their accessorising, as did the right-wing politician Karl Rove, who once told his audience at Yale that he knew them to be pretentious by their Moleskines. The mockery did nothing to hurt sales.

Neither did a growing interest, from psychologists and lifestyle gurus, in the notebook's practical effectiveness. Sebregondi herself suggested that the notebook's minimal form made it a perfect creative tool, talking of it in the same terms as Raymond Queneau's deliberately constrained work: 'a simple object', giving her the 'sense of extraordinary possibility born from small things'. The productivity guru David Allen Green recommended making lists in notebooks, as did neuroscientist Daniel Levitin; the journalist David Sax wrote a book, *The Revenge of Analog*, which depicted paper notebooks (along with vinyl LPs, board

* Moleskine and Leuchtturm both use mainly Taiwanese paper.

games and film cameras) mounting a spirited resistance against digital replacement. It became commonplace to contrast the old technology with the new. The original Moleskine had launched at the same time as the Palm Pilot, the first hand-held digital organiser, and had from day one faced competition from increasingly powerful devices. The laptop, the BlackBerry, the iPhone and the iPad all seemed to offer far greater functionality than their paper antecedent, but a stubborn constituency of users refused to move over into the digital sphere, and numerous peer-reviewed studies soon showed that their obduracy made sense. Something about the act of writing by hand, and the production of a physical object, makes the older technology more effective than the new. Sebregondi had, unwittingly, prompted serious inquiry into the workings of the human brain.

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My own interest in notebooks had also progressed beyond the commercial. I read Samuel Pepys, loving the unfettered way in which he documented work, home, leisure, his urban environment and his sex life; then I discovered my grandfather's eye-opening pre-war diaries, just as wide-ranging, although much briefer. So I started keeping my own journal in 2002, and each year added to a steadily growing heap of battered notebooks. Writing a diary made me happier; keeping things-to-do lists made me more reliable (which in turn made those around me happier), and I learned never to go to a doctor's appointment, or a meeting of any kind, without taking notes of what I heard. But there appeared to be creative benefits too. Every artist I met seemed to have a sketchbook to hand, as did graphic designers, and even web designers, whose product was entirely digital. Authors all kept notebooks, as did journalists, critics and other creative types – and the more assiduously they used those notebooks, the better their work seemed to be. The same applied to my colleagues' work: playful lists, diagrams and sketches regularly disgorged surprisingly good ideas. How did this happen? Was there a connection

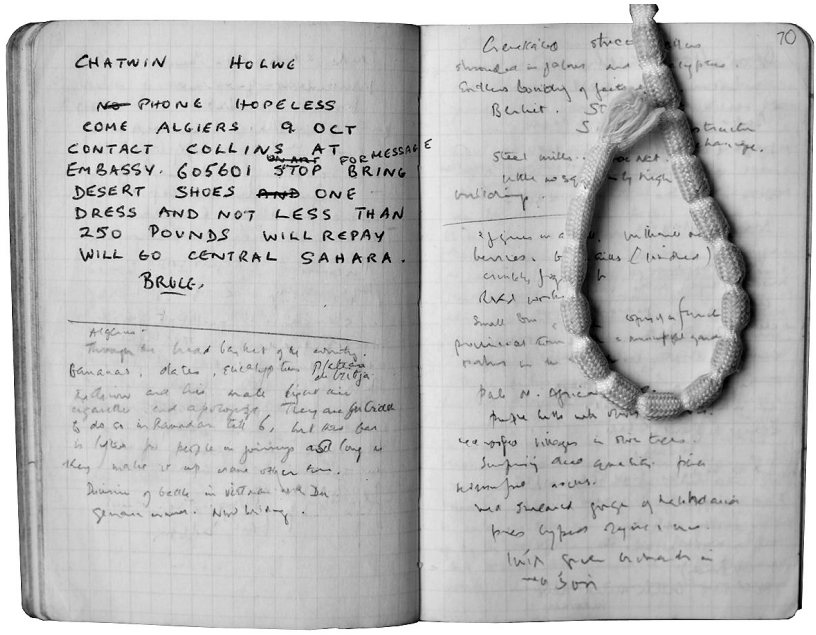
between notebooks and creativity? What other parts did they play in culture, and industry? What could someone's notebook tell us about them? Why did keeping a diary bring happiness, or at least contentment? Is it significant that we 'keep' a diary, as we keep an animal, a promise or a secret? Did the notebook's physical constraints paradoxically make it more useful than an unlimited digital device? And – most fundamentally of all – where had notebooks actually come from? Who had invented them?

Intriguingly, no-one seemed to know the answers. I could find no book on the subject, and nothing online to help. A Google search – 'when was the notebook invented?' – results in answers ranging arbitrarily from 60 CE in China to 1934 in New England, none of which bears examination.

My questions remained open and, after a late-night conversation in Frankfurt one October, I decided to take the problem more seriously. I can recall the scene vividly: which topped-barrel table I and my friend Simon sat at, what we drank, the fug of German cigarettes and the recorded horse's whinny that sounded every time the door opened to admit the students who formed that odd spot's regular clientele. (You remember long-gone moments well, if you keep a diary.) I told Simon of my preoccupation, and he responded with the question that any self-respecting publisher always asks.

'Why don't you write a book about it?'

Back in the hotel room, as I wrote the day up in my diary – one of many scarlet week-to-view Moleskines, falling apart as they always did by the autumn – this seemed an intriguing idea. So the next morning I bought a fresh notebook, a chunky teal Leuchtturm, as a place for my researches, and began populating its pages with notes, dates, plans, lists, stories, questions, mind maps, references and doodles. Eventually I filled it and started another, a grey hardback which in due course gave way to red then blue Japanese softbacks. So now, a decade on, a multicoloured stack of notebooks sits within reach of my left hand. They contain more than a thousand pages of notes: lines culled from scores of books, lists of hundreds of notebook-keepers, digests of histories,



Bruce Chatwin drafts a telegram in a 'moleskine': 'PHONE HOPELESS COME ALGIERS 9 OCT... BRING DESERT SHOES ONE DRESS AND NOT LESS THAN 250 POUNDS WILL REPAY WILL GO CENTRAL SAHARA'.

biographies, memoirs and scores of academic articles and scientific papers, none of it ordered or indexed.

And in them, unsorted and unprocessed, are the answers to the questions I'd asked. The notebook, it transpired, had not come into being in either 60 CE or 1934, or in China or New England. Working out when it did arrive, I realised that this story interlaced with all kinds of others – of culture and science, of innovation and discovery – and I came to believe that this was no coincidence. When notebooks appear on the scene, interesting things happen.

But in any telling, the story turns out to be intimately connected to Italians, on boats, in the Mediterranean.

CHAPTER 1

Before notebooks

The Mediterranean 1000 BCE–1250 CE

The oldest item that looks to modern eyes like a notebook sits in a display case in a castle in a Turkish city, thousands of years ago a thriving commercial and intellectul hub and now an equally busy holiday resort. In exemplary displays, the Bodrum Museum of Underwater Archaeology shows off items recovered from the bottom of the Mediterranean. The Ulu Burun shipwreck is one of its glories, and its gallery dedicates a display case to a small wood-and-ivory item: a hinged writing tablet which, when folded shut, would sit nicely on the palm of your hand.

Like many items in the museum, this tablet – or diptych – was pieced together from many broken parts, but the restorers did an excellent job and it's easy to picture what it looked like before it was carried to the sea bed off Ulu Burun, a sharp headland on Turkey's rocky southern coast. Recesses were cut into two boxwood leaves and these were filled with a layer of soft beeswax, in which the owner could write with a stylus. When they needed to reuse the diptych, its wax could be smoothed over again. The wood in the recesses was scored, to help the beeswax adhere and that wax may have been mixed with orpiment, a bright yellow

compound of arsenic and sulphur which would have given it a rich yellow colour, making it easier to read from, though poisonous. The fine woodwork and ivory hinges suggest that the diptych had once been a prized possession. But whose?

The wreck is the oldest shipwreck yet excavated: it went down in about 1305 BCE, and its other contents confirm that we inherit the diptych from a sophisticated trading network. Divers recovered 506 hefty copper ingots, probably from Cyprus; a ton of tin, probably from Sardinia; amber beads from the Baltic; jars filled with beads, olives and orpiment; tortoise shells; ebony logs; elephant ivory; hippopotamus teeth; thirty-seven pieces of gold; arrowheads, spearheads, daggers, and maces; almonds, figs, cumin and sumac; and so on. The tablet survived in such good condition because it sank in a clay jar, along with a chisel, a razor and some pomegranates. Together, the ship carried goods from no fewer than ten cultures – a cargo as varied as any on one of today's container ships. We can deduce, therefore, that the tablet's owner was probably some kind of sailor, trader or diplomat, and cosmopolitan in experience.

The Ulu Burun discovery, from *c.*1305 BCE: wax tablets like this were Europe's notebooks for two thousand years.

We know that they used the tablet for writing, but we can't know exactly what they wrote. Diptych tablets were limited by their capacity; one might scratch a couple of hundred words into the wax before running out of space. This made them extremely useful for a things-to-do-list, the draft of a letter, or a phrase that you wanted to remember, but no good if you had anything more complicated in mind. And your words were vulnerable: the wax could be wiped smooth in a second. So what did our forebears write on when they needed more space, or permanence?

In this part of the world, for five hundred years or more before this time, people had written in cuneiform on clay tablets. These make an impressively permanent, tamper-proof record, and survivals from Mesopotamia and Anatolia include tax receipts, payments for goods received, and similarly weighty transactions. But there were no clay tablets on the Ulu Burun ship.

During the same period, the ancient Egyptians made papyrus from a tall reed which thrives by the Nile but is surprisingly difficult to cultivate elsewhere. Papyrus was cheap, and – unlike clay tablets – practical. It can be rolled up into long scrolls, and therefore used for longer texts than clay or wax tablets, and what's written on the page lasted as long as the papyrus. So it's likely that the Ulu Burun ship carried documents on papyrus sheets or scrolls – maybe letters, and paperwork to do with its valuable cargo, like a bill of lading. But papyrus doesn't hold together well, even if it isn't submerged in fifty metres of seawater; it cracks when folded, frays easily, and over time disintegrates in almost any other conditions than arid desert air. So the anonymous owner of the Ulu Burun tablet had a choice of ways to write, each with their own pros and cons. But none were both durable and portable.

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About a century after the Ulu Burun shipwreck, the complex economy which had sustained the unlucky ship's cargo disintegrated. Historians argue over the causes of the late Bronze Age collapse, but its results can clearly be read in the archaeological record: a series of

wars and other disasters saw every city from Greece to the Levant – hundreds in total – destroyed. Settlements were depopulated, entire cultures and trading networks evaporated, and there must have been much less demand for writing materials.

The Romans, when they eventually succeeded the Bronze Age and Hellenic civilisations of the Eastern Mediterranean, adopted small Ulu Burun-style tablets, which they called *pugillares* or 'handhelds'. They made them more capacious, either by making the leaves larger (and calling the results *tabellae*) or adding more leaves: tablets with three (and therefore four, not two, faces to write on) became common, and one survivor from Pompeii has eight. Many paintings on the walls of Pompeii and Herculaneum depict them and – as usual in Rome – their usage seems to have been firmly gendered.

When Roman men are shown with their tablets, the context is always one of business, or the 'sober management of the family's wealth'; for women, the picture is more complicated. The enticingly ambiguous mural (opposite) is often said, without cause, to represent the poet Sappho, which it certainly doesn't. The subject may, possibly, have been a Roman wife keeping her accounts or writing a letter, but recent scholarship argues that she is in fact one of the muses, the divine sources of scientific and artistic knowledge. 'Men could aspire to the literary life,' concludes Elizabeth Meyer's study of the Pompeian tablets, 'but their companions – Muses or women portrayed as Muses – could only aspire to inspire it.' In any case, the artist wasn't looking too closely: the tablet is depicted without hinges, and in real life would have fallen apart.

The Romans solved one of the medium's problems, finding a way to protect the writing on a wax tablet, making it suitable for legal documents or contracts. They drilled holes through its frame, tied it shut with a cord, and applied wax seals – up to seven, depending on the seriousness of the document. You couldn't then read what was written inside, but you could trust that it hadn't been interfered with. Traders used similar systems to close their diptychs and make them tamper-proof.

The so-called Sappho fresco from Pompeii, showing a woman, or perhaps a divine muse, with her *pugillare*, or 'handheld' tablet.

When Romans wanted a legible permanent record, they usually used papyrus, and if they couldn't lay their hands on that, they would write on strips of wood: but the most durable substrate they had was parchment, invented in a Greek kingdom, Pergamon, in northwestern Anatolia. Tough as old boots, for the excellent reason that it's made of the same stuff, parchment is hard work to make, and expensive: an entire animal hide (goat, sheep and cow-hide will all do the job) will only yield a few pages. The Greeks wrote on it, as did the Romans, either on single sheets or scrolls, until around the year 80 CE, when someone in Rome created the first bound book of papyrus pages folded within a protective parchment cover. This innovative format – the codex – proved useful, and it

grew in size and scope over time, particularly with the spread of Christianity, which – unlike earlier religions – came with its own holy book. You can see the result in the British Library, where the formidable Codex Sinaiticus, 694 pages of calf- and sheep-skin parchment, represents the finest in fourth-century bookbinding. It shows off the codex's main advantages over the scroll: you can easily move around the text, jumping from page to page, you don't need a flat table to unroll it on, you can write on both sides of the sheet, and you can use it for extremely long texts. A scroll version of the Sinaiticus codex, written in the same hand, would have been a quarter of a mile long. So despite its punishing expense, the parchment codex represented a huge step forward.

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A cheaper material had already been invented, but it would take hundreds of years to arrive in the West. Cai Lun, a Han dynasty eunuch, is said to have been responsible for the invention of paper, discovering that pulp vegetable fibres drained over a fine mesh dried into a durable, versatile and affordable material. Although the Chinese didn't immediately think of it as a writing material (preferring split bamboo for everyday use, and silk for high-status texts) paper found a multitude of applications across the Chinese empire while the codex spread across the Roman Mediterranean and Near East. Usefully, it could be made from a variety of raw materials; hemp, mulberry bark and old fishing nets all made good paper, and linen fibres, readily available in the form of worn-out underwear, worked particularly well.

Over the middle centuries of that first millennium, as the Roman empire waned and the Chinese empire grew, their respective innovations approached each other along the silk roads. The codex moved east, as paper moved west, until finally, around the year 800, they met in the middle at the Abbasid Caliphate's capital, Baghdad, which was rapidly becoming the world's largest and richest city. Paper supplanted papyrus, having 'a transformative effect', as Jonathan Bloom, the leading historian of the subject,

puts it. For the following four centuries, Persian, Arabic and other Muslim intellectuals raced ahead of their rivals and counterparts in Christian Europe. In law, medicine, mathematics, philosophy, art, trade, literacy, in all the enterprises of civilisation, the Caliphates enjoyed a cosmopolitan golden age while Europe receded. Islamic cities boasted million-volume libraries and streets of booksellers: administrators, students, teachers, and thinkers of all kinds relied on relatively cheap, plentiful paper to do their work.

Even as paper revolutionised the spread of thought and culture in the Islamic world, a number of cultural barriers blocked its adoption in western Europe. Protectionism, for one: although the Caliphs were happy to see paper mills spread across their sphere of influence, they did not let papermakers take their skills elsewhere. Neither did merchants in the Maghreb or Levant export paper in significant quantities to Europe, where the most literate section of the population, the clergy, were committed to the use of parchment. They didn't like paper's suspiciously infidel origins, its novelty, or its recycled origins: one opponent fulminated against the idea that the word of God could be written on menses-stained rag. This clerical resistance was matched by that of most of the continent's rulers: in 1221, the Holy Roman Emperor Frederick II, who ruled Europe from Sicily to northern Germany, decreed that parchment, not paper, was the only material an official document could be written on. Christendom was aware of paper, but sceptical.*

Events in Spain, where a struggle rumbled between the Almohad Caliphs and the ambitious Christian monarchs of the north, would change that for good. The town of Xátiva was the prize. Located on a fertile plain inland from Valencia, where abundant water flowed from the surrounding mountains of the Serra de Crevillent, this had been an Islamic possession for five centuries and had been famed for the quality of its linen cloths for centuries before that. The easy availability of flax and fresh water encouraged Muslim

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* There was one attempt to manufacture paper in Genoa in the 1230s, but the product was inferior and the business failed.

papermakers to establish themselves there, and by 1150 Xátivan paper was known across the Islamic world for its quality. Temptingly close to the borders of his expanding realm, this industry appealed to King Jaume of Aragon, also ruler of Catalonia, who spent nearly twenty years attempting to take Xátiva, finally succeeding in 1244. A gifted administrator and military campaigner, Jaume was obsessed by paper, and when he finally had control of the town's workshops, he made every effort to sustain and grow their trade. Muslim papermakers were allowed to keep their businesses, and when their demand for linen outstripped local supply, permitted to import shipments of rags from overseas duty-free.

Jaume's own government was their largest customer: historians note that during his long reign (he came to the throne in 1213 and ruled until his death in 1276) the amount of official paperwork and documentation doubled each decade, as he imposed his rule on his expanded kingdom, taxed it and encouraged the rule of law. Like the bureaucrats in faraway Baghdad, he created an administration that demanded deeds, writs, regulations, notarised statements, official correspondence and other paperwork in ever greater quantities. Paper exports also grew exponentially. Xátivan paper retained its reputation for excellence, and was shipped to customers as far away as Byzantium, and the industry spread across Jaume's realm, to Majorca and Provence, whose workshops were the first to brand their product with watermarks.

Paper bolstered Jaume's administration and helped him solidify the rule of law across his territories, but it also transformed the way commoners lived and worked. For the Mediterranean's trade routes were becoming busier with each passing year: not yet as busy as they had been during the glory days of Rome, but getting that way. A new breed of merchants were learning to trade in increasingly sophisticated ways; building companies, investing in partnerships, transporting commodities across Europe, amassing huge fortunes.

And they did it with notebooks.

CHAPTER 2

Red book, white book, cloth book

The invention of accounting, Provence and Florence 1299

It is yet another long lockdown evening, and I am reading a history of medieval paper mills while my partner studies. She is retraining as an accountant, and tonight taking an online practice test; I hear her muttering its questions under her breath. 'Transfer from the cash book to the general ledger...' she says, then after a pause taps in her answer. 'Calculate the book value…'

'What are you doing?' I ask.

'Balancing the books.'

This all sounds oddly paper-oriented for a modern accountancy course. She's training for a profession that lives in software – Excel, QuickBooks, Sage, SAP, Stripe – yet its technical vocabulary is a lexicon of papery metaphors. The bought ledger, cash book, general ledger and journal are a company's everyday records, while the bookkeeper is one of its key professions. We judge a company's health from its balance sheet; we write down – or, worse, write off – assets to calculate book value; and when we sell a company we open the books to potential buyers. In particular they will want