Simon Garfield

ON THE MAP

Why the world looks
the way it does

PROFILE BOOKS

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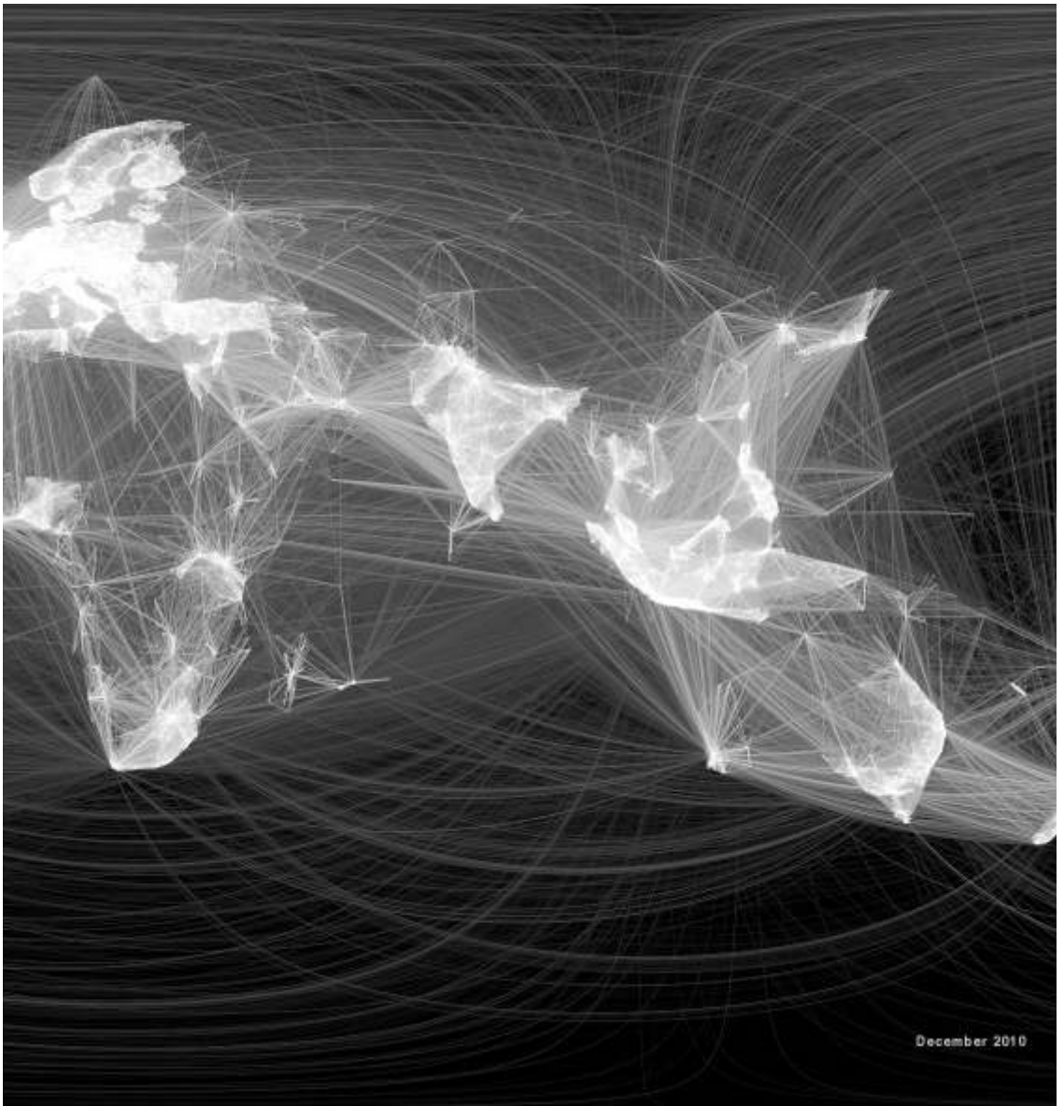
Introduction
The Map That Wrote Itself

In December 2010, Facebook released a new map of the world that was as astonishing as it was beautiful. It was both instantly recognisable – the standard projection produced by Gerard Mercator in the sixteenth century – and yet curiously unfamiliar. It was a luminescent blue, with gauzy lines spread over the map like silk webs. What was odd about it? China and Asia were hardly there, while East Africa seemed to be submerged. And some countries weren't quite in the right place. For this wasn't a map of the world with Facebook membership overlayed, but a map generated by Facebook connections. It was a map of the world made by 500 million cartographers all at once.

Using the company's central data on its members, an intern called Paul Butler had taken their latitudinal and longitudinal coordinates and linked these to the coordinates of the places where they had connections. 'Each line might represent a friendship made while travelling, a family member abroad, or an old college friend pulled away by the various forces of life,' Butler explained on his blog. Facebook had about 500 million members at that time, so he anticipated a bit of a

mess, a crowded mesh of wires (like the back of those early computers) that would culminate in a central blob. Instead, Butler recalled, 'after a few minutes of rendering, the new plot appeared, and I was a bit taken aback. The blob had turned into a detailed map of the world. Not only were continents visible, certain international borders were apparent as well. What really struck me, though, was knowing that the lines didn't represent coasts or rivers or political borders, but real human relationships.'



It was the perfect embodiment of something Facebook's founder Mark Zuckerberg had told me when I interviewed him the year before Butler created that map. 'The idea isn't that Facebook is one new community,' he had said, 'but it's mapping out all the different communities that exist in the world already.'

The digital revolution – so neatly encapsulated by that Facebook map – has transformed mapping more than all the other innovations of cartography's centuries. With our phone

maps in our hands and Google Earth on our computers, it is increasingly difficult to recall how we managed without them. I seem to recall we used to buy maps that folded, or maps that once folded when they were new and then never again. Or that we used to pull down shoulder-dislocating atlases from shelves and thumb through their index, and perhaps wonder at how many Springfields there were in the United States.

That these simple pleasures are becoming distant memories is no small change. For physical maps have been a vital part of our world since we first began finding our way to food and shelter on the African plains as hunter-gatherers. Indeed, Richard Dawkins speculates that the very first maps came about when a tracker, accustomed to following trails, laid out a map in the dust; and a recent finding by Spanish archeologists identified a map of sorts scratched on a stone by cave dwellers around fourteen thousand years ago. Dawkins goes on to speculate as to whether the creation of maps – with their concepts of scale and space – may even have kick-started the expansion and development of the human brain.

In other words, maps hold a clue to what makes us human. Certainly, they relate and realign our history. They reflect our best and worst attributes – discovery and curiosity, conflict and destruction – and they chart our transitions of power. Even as individuals, we seem to have a need to plot a path and track our progress, to imagine possibilities of exploration and escape. The language of maps is integral to our lives, too. We have achieved something if we have put ourselves (or our town) on the map. The organised among us have things neatly mapped out. We need compass points or we lose our bearings. We orient ourselves (for on old maps east was at the top). We give someone a degree of latitude to roam.

Maps fascinate us because they tell stories. The ones in this book tell how maps came about, who drew them, what they were thinking, and how we use them. Like any map, of course, the selection is highly selective, for a book about maps

is effectively a book about the progress of the world: sturdier ships in the fifteenth century, triangulation in the late-sixteenth century, the fixing of longitude in the eighteenth, flights and aerial observation in the twentieth century. And then, in this century, the Internet, GPS and sat nav – and perhaps, through them, a second reshaping of our own spatial abilities.

For the Internet has effected an extraordinary and significant change. Before astronomers faced the gallows for suggesting otherwise, our earth stood firmly at the centre of the cosmos; not so long ago, we placed Jerusalem at the centre of our maps; or if we lived in China, Youzhou. Later, it might be Britain or France, at the heart of their empires. But now we each stand, individually, at the centre of our own map worlds. On our computers, phones and cars, we plot a route not from A to B but from ourselves ('Allow current location') to anywhere of our choosing; every distance is measured from where we stand, and as we travel we are ourselves mapped, voluntarily or otherwise.

Earlier this year, a friend of mine noticed an odd thing on his Blackberry. He was walking in the Italian Alps and wanted to check out contours and elevations. When he turned on his phone his Transport for London bicycle app was open: a handy tool where you put in a London location and it tells you how many bikes are available at each docking station. It was less use in Italy, or so he thought. But, in fact, the app was still working and the map over which Transport for London had overlaid its bicycle info actually covered the entire world. The bikes were only the start of it. It could plot a route to Ravello, Cape Town or Auckland. Wherever he went, my friend *was* the map, the pivot around which the world diligently spun. And the app was no doubt tracking him, too, so that someone knew which Italian mountain he was on, as well as who was riding the bike he had docked the day before.

How on earth did we get to this point? This book is intended as an answer to that question, but it could also be

viewed as a journey around an exhibition. It is by necessity an imaginary show, for it contains things that would be impossible to gather in one place: long-destroyed impressions of the world from Ancient Greece, famous treasures from the world's universities, some jaw-dropping pieces from the British Library and the Library of Congress, rare items from Germany, Venice and California. There will be manuscripts, sea charts, atlases, screen grabs and phone apps. Some exhibits are more important than others, and some are just displayed for amusement. The range will be extensive: poverty and wealth maps, film maps and treasure maps, maps with a penchant for octopuses, maps of Africa, Antarctica and places that never were. Some of the maps will explain the shape of the world, while others will focus on a street or on the path of a plane as it flies to Casablanca.

We'll need a lot of space for our guides: boastful dealers, finicky surveyors, guesswork philosophers, profligate collectors, unreliable navigators, whistling ramblers, inexperienced globe-makers, nervous curators, hot neuroscientists and lusting conquistadors. Some of them will be familiar names – Claudius Ptolemy, Marco Polo, Winston Churchill, Indiana Jones – and some will be less well known: a Venetian monk, a New York dealer, a London brain mapper, a Dutch entrepreneur, an African tribal leader.

You hold in your hand the catalogue to this show, and it begins in a library on the coast of Egypt.

Chapter 1
What Great Minds Knew

Maps began as a challenge of the imagination and they still perform that role. So imagine yourself in your bedroom. How good would you be at mapping it? Given a pencil and pad, could you draw the room well enough so that someone who's never been there would get a fair picture? Would the size of the bed be in proportion to the door and the bedside table? Would the scale be right in relation to the height of the ceiling? Would your kitchen be harder or easier to map than the bedroom?

This shouldn't be too hard really, because these are places you know well. But what about the living room of a friend? That would be partly a test of memory – would you get it right or would you be struggling? But what about your first school: would you remember where your classroom was in relation to others? Or the world? Could you draw that? Could you correlate the relative size – and geographic relationship – of Mongolia and Switzerland? Would you get the oceans even half right in the southern hemisphere? And what if you'd never seen another map before, or a globe, and you'd never been to any of these places yourself? Could you construct a map of the world based purely on what people

had told you, and what people had written down? And if you did manage this, would you be happy for it still to be used as the principal map of the world some 1350 years after you had drawn it?

Only, I imagine, if your name was Claudius Ptolemy.

Considering his impact on the world, and beyond the fact that we should regard the P in his surname as silent, we know curiously little about Ptolemy. But we do know where he worked – at one of the greatest buildings in ancient Egypt, lying just a little way inland on a small cloak-shaped port on the banks of the Mediterranean.

The story of the vanished Great Library of Alexandria is one of the most romantic of the ancient world, and it appeals partly because we are unable to imagine a modern equivalent. Today's British Library is a library of record, receiving a copy of each new work in the English language, but it has no ambitions to house a complete collection of the world's manuscripts, nor to contain the sum of human knowledge. The same with the Bodleian in Oxford, and the New York Public Library. But the Great Library of Alexandria did aspire to such ambitions, and it existed at a time when such a thing was broadly achievable.

From its inception in around 330 BC, the Library was intended as a place where every scrap of useful information found a home. Other private libraries were commandeered for the common good; manuscripts arriving in the city by sea would be transcribed or translated, and only some were returned; often the ships would sail away again with the originals replaced by copies. At the same time, Alexandria became Europe's principal supplier of papyrus, from which the majority of its Library scrolls were made. And

suddenly the supply of papyrus for export dried up: some claimed that all the papyrus was required to supply the Great Library, though others detected a plot designed to inhibit the growth of rival collections – an elitism, passion and quest that all obsessive book and map collectors will recognise.

The Great Library was the legacy – like the city itself – of Alexander the Great. During a journey along the western reaches of the Nile Delta, Alexander had come across a site that, according to the Roman historian Arrian, he predicted would be 'the very best in which to found a city.' Its subsequent foundation signalled the shift of governmental and cultural power from Athens.

Alexander had been tutored by Aristotle in the ways of morality, poetry, biology, drama, logic and aesthetics, and it was through Aristotle that he became devoted to Homer, taking the *Iliad* into battle and living by its teachings. His conquest of the Persian Empire was followed by the destruction of Tyre and the rapid capitulation of Egypt, and it was here that he became afflicted with immortal ambitions: he wanted his legacy to be a symbol of learning rather than destruction, a place from where the Hellenistic worldview would be spread through the empire and beyond. And so he laid plans for a city marked by a devotion to scholarship, high ideals and good governance, and its vast Library was to be its pantheon.

The Library, completed several decades after Alexander's death in 323 BC, was in effect the world's first university, a place of research and colloquy, whose scholars included the mathematician Archimedes and the poet Apollonius. They discussed scientific and medical principles as well as philosophy, literature and political administration. And they were responsible for drawing up the first accomplished maps of the world: a role for which, living in a port city at the heart of both western and eastern trade routes, and with

first-hand testimonies from travellers and sailors, they were ideally placed.

If we stumbled across a map of ancient Alexandria today, we would see an orderly place, a grid system of boulevards and thoroughfares. A heavily populated Jewish Quarter lies to the east, while the Library and Museum stand in the Royal Quarter in the centre. The city is surrounded by water, with the Great Harbour (home of the royal palaces) on small islands in the north. At the city's northern harbour rises the Pharos lighthouse, one of the Seven Wonders of the World, more than a hundred metres tall, with a flame at its top reflected by a mirror and visible some thirty miles out to sea. It would be difficult to miss the metaphor: Alexandria was a beacon city, a landmark both liberated and liberating in a city pulsing with illuminated thinking.

But the world beyond Alexandria – how did that look at the beginning of the third century BC?

Despite the Great Library's accomplishments in science and mathematics, the study of geography was still in its infancy. Its first scholars constructed an important proto-map of the world, based largely on the writings of the Greek historian Herodotus. His nine-volume *Researches* had been completed a century and a half earlier but his description of the rise and fall of the Persian empire and the Greco-Persian wars remained the most detailed source on the known world. Homer, too, was regarded as an important source for geographical knowledge, not least through the travels depicted in the *Odyssey*.

It is thought that this Alexandrian map depicted the world as round, or at least roundish, which by the fourth century BC was commonly accepted. It is possible that Herodotus shared this view, though he may have seen it as a flat disc floating on