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VIEWPOINT

The Last Big Atlas?

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Or the question I get asked most, 'Why buy a printed book'?

Some would say you don't have to open a book, you don't have to visit an art gallery, museum or concert hall, you can 'see and hear it all on the net'. My family reads books, visits art galleries, museums and attends concerts, AND uses the Internet. Atlases, like many books, help us dream – we find one town, then spot another and another, and before we know it we have spent hours exploring the world. I don't do this on the internet. Some years ago I looked at an illustrated atlas with my kids – we then ended up spending $20,000 travelling to Rome, Venice, Japan and Bali on holidays – now that was an expensive book, but worth it.

Atlases are also time capsules, and *Earth Platinum* is one big time capsule. It's a shame most companies don't have a record of what their websites looked like 10 years ago. It's a shame that many family photos albums are held on one USB stick. This article explores some of the ideas, challenges and implications of *Earth Platinum* (Figure 1).

In the long run, new media doesn't always replace old media. TV didn't replace radio, DVD didn't replace cinema. In the 1980s, digital watches were popular, and many said digital watches would be the death of the traditional watchmaker. Most of my friends had a digital watch (some watches even had calculators) – who is wearing a digital watch today? The watch on my wrist cost more than 10 times the cost of a digital watch, my watch is elegant, stylish and accurate. When I look at my watch, I also gain a unique perspective on time, not just a single data byte. My kids will one day inherit my watch. In the 1980s, the watch industry did get a shake-up, many manufacturers went out of business. There are fewer watch repairers around today. The repairers that are around know their craft, most of them are over 50, many are passionate about their work. Will cartographers go the way of the watchmaker?

Fewer and fewer individuals are learning cartography. Many that do become GIS technicians knowing more about science than art. Will this industry go the same way as the passionate watchmaker?

The bigger question: is a world atlas more of a science, an art work or a political statement?

The simple answer is that depends solely on who the publisher is, and where they are based.

Atlases are the hardest of all illustrated books to publish. I've personally had more sleepless nights, letters from governments, and individuals, to make me question why I would produce an atlas? All this in the same year that I thought my biggest concern was going to be over the 350-page book we published on *the Mafia* and organized crime around the world.

Cartography is a science. The symbols, layers and the line work finally came together in Adobe Illustrator. But well before that, the 60+ cartographers who worked on *Earth Platinum* were each given pages and pages of style sheets on how to prepare the data. If possible, national mapping organizations in each country were consulted. Failing that data was checked against satellite imagery. Any questions that surfaced, such as the placement of political boundaries or correct location names, were brought to the attention of the local cartographer, or academic organisation, for an 'unbiased decision'. A major reference for the editors was the US Board of Geographic Names and, where possible, we also used the national names authorities of many countries.

Many of the cartographers merged the line work, point data and labels, using ArcGIS developed by Esri. Others were created and developed with MAPublisher software by Avenza Systems. 'In the course of producing island maps, MAPublisher was used primarily for combining GIS layers from various sources as well as the shaded relief images coming in from other cartographers. Styling was also handled by MAPublisher style sheets', said Hans van der Maarel of Red Geographics, a cartographic company located in The Netherlands. 'We also used MAPublisher to define all the map projection parameters and layouts', said Roger Smith of Geographx, a digital mapping company based in New Zealand responsible for taking in corrections and producing the final files.

Once the population of a town (from over five million down to less than 10,000) was known, the label and marker size were then assigned based on our predetermined size scale, the town name is given a reference point (longitude and latitude) and the towns were automatically added to the maps using programs such as Maplex and MAPublisher. Cartographers then had to check by sight to make sure the names didn't run into or on top of other names. This is

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Figure 1. Gordon Cheers (right) with Peter Barber, Head of Map Collections at the British Library viewing *Earth Platinum*

tricky with long names such as Taumatawhakatangihanga koauauotamateapokaiwhenuakitanatahu (a mountain in New Zealand)! Fortunately, in this instance, the label lay near the coast, so the lettering could flow into the sea. Then there were the easy town placements such as the Norwegian town of Å that lies on the island of Moskenesøya in the county of Nordland. The roads with 10 categories (such as major, minor, secondary or track), railways, rivers, national boundaries and international boundaries (seven categories in all), lakes (salt or otherwise), mountain peaks, volcanoes, World Heritage sites, etc,, all had a separate coding, determining style, print colour, size, thickness, etc. Even the Great Wall of China had its own coding/styling. So yes there is a science to map making.

Cartography is political, with over 40 editors (from all around the world) who had the task of researching how to treat sensitive political issues such as Taiwan, Tibet, Jammu and Kashmir, and many more. Fortunately, for *Earth Platinum*, and its readers, *Earth Platinum* is published in Australia where we have full independence (unlike many atlases in the past which were published in countries with less freedom). As it now exists, we would not be allowed to print *Earth Platinum* in China. If we did, the South China Sea, India/Pakistan and Israel would all look very different.

We do print atlases and sheet maps in China with government approval, (which often takes 6 months or more) but these products then look very different (once the hundreds of red ink 'corrections' have been taken in).

Earth Platinum reflects a modern-day Western view of the world as it is now – taking in the partition of Sudan, the relatively new country of Kosovo, applying a current standardisation to the towns in China, and recognizing the South African, Canadian, Australian and New Zealand trend to revert to traditional names for some of their major towns and features. As it now exists, *Earth Platinum* cannot be sold in Korea and selling in India or the Middle East has its challenges. We could have made changes to make Korean and other sales easier, but chose not to. We defer to the United Nations (UN) for clarification and boundaries, spelling, etc. – I thought if it's good enough for the UN, it was good enough for us! Of course some of the updates simply reflect our world as it is today and who is in power, such as Antigua and Barbuda's in the Caribbean where the highest point, has been renamed, to honour the President of the USA, Barack Obama. Boggy Peak, on the island of Antigua, is now officially known as Mount Obama.

Cartography is an art. We had teams of people just dedicated to creating the colour background – differentiating the colours by the height above and below sea level. We spent hours at meetings discussing the choice of colours – even the oceans have seven shades of blue. I pushed for very dark coloured mountains which resulted in an amazing 3D effect on the relief shading. Once the colouring was

decided, we added the place names, only to find that in some places, the names were not legible as the dark brown background was too dark and the type was too fine. Lots and lots of small place names have the effect of adding dark haze over the map. So it was back to the drawing board, to get the balance right. In many instances, we used a percentage of black instead of solid black for the place names.

Will more large atlases be printed?

That's an easier question. It's taken more than 350 years since an atlas anywhere near the size of the Klencke has been produced, so probably not. The Italian printer commissioned to print *Earth Platinum* has now been sold, the book binder in Hong Kong is looking to retire (after more than 20 years in the business). All this is happening at a time when the book publishing industry is contracting, and cartographic book publishers are diminishing rapidly.

The traditional offset printing process was used, in conjunction with photo images being burnt into the plates using a high-tech machine. The result is a much greater level of detail in the plates. Only one type of printing press (theRapida 205) can cope with the size of *Earth Platinum* and the level of detail. Although there are 26 of these presses globally (made in Germany by KBA), only one company in Milan was willing to undertake the risk for such a ground-breaking project. Digital printing may provided the future for printed atlases, but at this point they just can't produce the detail.

Earth Platinum's large format allows for far more detail than is usual to be displayed. Towns, rivers and islands that normally would not be shown due to size restrictions are clearly visible. Because of the size of the book, a person is actually enveloped by what they are seeing when viewing the atlas. This all-encompassing sensory response is triggered as the vastness of continents, cities, oceans and mountain chains become apparent. Unlike a computer screen where you can move a mouse to see from one side of USA to the other, in *Earth Platinum* you have to engage your whole body and walk 9 feet to explore from the West Coast to the East Coast.

Of course you could get a similar effect with over 100 iPads placed side by side. Our children have greater access to mapping and cartography than any other generation before, but talk to a geography teacher, and they will tell you that these children know less about geography than their parents did. The click of a mouse shouldn't be our only option.

The photographs in *Earth Platinum* do point to where photography is heading. We were fortunate to discover the GigaPan process, which pieces together up to 1000 images to create just one image for our double page spread. There are 27 GigaPan images in *Earth Platinum* and even some of the 'smaller' ones are still printed at 9 feet long by 2 feet wide. Needless to say, these images are immense in size (5 or more gigabytes), some taking as long to download as a whole video, so moving files became a challenge. Some of the images took over 20 min to capture as the camera snapped bite size images as it moved along a programmed path. The process reminded me of early photography when the lens had to left open for minutes, resulting in blurred images or ghosts. With the GigaPan images you can end up with headless bodies, legless bodies, etc due to the nature of the process. Unlike photographs of old, however, we now have Photoshop to remove all of these, before they go to print. In due course, this will be refined and even domestic cameras will have the sharpest detailed images good enough for an extra large photo.

BUILDING FOR A LEGACY

I have published many books, and written a few. Most books last about 3–6 months in bookshops – not because they are not good, but with over one million titles due to be published in 2013, and the average bookstore only able to carry limited stock at one time, there just isn't the space to hold all the titles produced each year. As writers, we often write to produce a legacy but the reality is that for most books, there is no print legacy; the shelf life is too short. One could argue that with eBooks the legacy is infinite, but with over 30 million books digitized, for the 'average book' the 'shelf life' is now probably less than 3 months.

So if you are not *Harry Potter* or *50 Shades of Grey* what's needed to leave a legacy? I think the answer for an atlas is three main elements (over the years I have seen many books with these elements, but few had all three).

These elements are:

1. **Needs to be credible**, authoritative, well respected. Using the best team of writers, cartographers and editors, should ensure this.
2. Any book needs to be **well produced**, i.e. well bound, finished, printed on acid-free paper, section sewn with a binding to last.
3. Lastly, a book needs to be **cared for**. If a book is rare and has the other two qualities, it will be cherished and preserved in the finest museums and libraries around the world.

There is little that I can achieve in my lifetime that will survive 500 years; there is little that many (possibly any!) of us can achieve that will last 500 years.

Earth Platinum needs to be cherished, to ensure that those in the year 2500 can see how our world appeared in 2012. Five hundred years from now, when the buildings around us have disappeared, *Earth Platinum* will still be here as our legacy of cartography in 2012.

Lastly, I leave it to cartographers for the last words:

> *As a cartographer seeing your own work in print is the most rewarding part of any project. So when I walked in and saw Earth Platinum at the British Library up close for the first time, I was thinking 'wow' the size is incredible and if I'm honest feeling a little emotional too. To have had the opportunity to be one of the lucky few to be involved in such an amazing 'record breaking' project is a privilege. I feel very proud and it is something I will always remember, it's a definite milestone in my career.* Leanne Kelman – Cartographer

> *I had seen the dummy in Frankfurt last year but even that didn't prepare me for seeing the finished result. Earth Platinum is quite simply breathtaking, the design of the mapping appears to make it 3D and the images just make you feel you are actually there. To*

Figure 2. Gordon Cheers and Peter Barber inspect page 58–59 of Earth Platinum

have been involved in the production of such a major contribution to cartographic excellence makes me very proud. Alan Smith – Cartographer

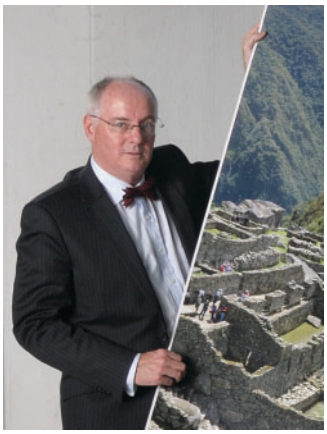
The Library's collection of maps is one of the greatest in the world, and the maps are important not only for their use as geographical aids, but also as mirrors of the cultures in which they were created. While the Klencke Atlas provides an insight into the world of British monarchs in the seventeenth century, and what they thought was important about it, the Earth Platinum will offer a reflection of what people of 2012 felt was worth recording about their very different world. It will be an astonishing resource for researchers in ten, twenty or two hundred years' time. Peter Barber – Head of Cartography, British Library (Figure 2)

It was a privilege to be a member of the international team of cartographers who have helped to produce this book. I am glad that I have been able to contribute in a very small way to this extremely impressive atlas. Had I not had the opportunity to see Earth Platinum for myself, on display at the British Library, I do not think that I could have fully appreciated just how much of an achievement it is for the publisher to have produced this book. The attention to detail and materials used in the production process are particularly impressive and maps and photographs at this size demand to be looked at. Once again, I am grateful to have been given the opportunity to be a part of this landmark project. Ed Merritt – Cartographer

It was a real treat to witness Millennium House Platinum at the British Library. I was familiar with most of the maps but had the opportunity to see many other pages which I did not contribute to – the photographs, prelims, flags and index – which were all impressive. But what I found especially interesting was the lavish assembly of the atlas. The grammage of the paper, the wood and leather cover, the metal corner protectors and especially the hand finished binding. I expected the book to have an imposing physical presence, but now also appreciate what a feat of engineering it is. David McCutcheon – Cartographer

In this digital age it is a real treat to see such a lavish production in print. To work on such large maps on screen is pretty much the same process as any other atlas page and it wasn't until I saw the finished product that I fully appreciated the scale of the task. It is truly awesome. Fabulous images, an excellent selection of maps and superb print quality. Quite simply stunning. A wonderful experience not to be found in a digital product. Mary Spence – Cartographer

BIOGRAPHICAL NOTES



My first book, *Carnivorous Plants*, was self-published in 1983, when I owned a wholesale plant nursery in Southeast Australia, and propagated carnivorous plants. My second book was *A Guide to Carnivorous Plants of the World* (Hardcover, 1993) published by Harper Collins. I then wrote *Killer Plants and How to Grow Them* for Penguin as a Picture Puffin. The Picture Puffin book then went on to win Children's Book of the Year in 1997. It explained Binomial nomenclature (the way plant names are used) - it must have worked to have won the award. I have worked in publishing for more than 27 years mostly for Penguin Books and for Random House where I was publishing director of children's and adult illustrated books. In 2005, I established Millennium House with the late Margaret Olds. My published books include *Astronomica, Geologica, Anatomica* (900 pages on human anatomy), *Flora* (1500 pages on plants), *Botanica, Historica, Natural Health, Christianity, Mafia, Home* (architecture from around the world) and many more. In 27+ years of book publishing, the hardest books to publish have been atlases, for political, cost, artistic and accuracy to detail reasons.

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All pictures credits: Jannine Doyle.