

## **OPENSTREETMAPS COUNTRIES < WHEN STARTED**

Charles Arthur, The Guardian

There's an interesting difference between a map and a telephone. A map is a weapon: it's a container of knowledge. If you are the only person who has a map - of where the pirate treasure is buried, of an enemy's troops, of the terrain where a battle will be fought - you are more powerful, better-equipped than those who don't.

A telephone, by contrast, has no value on its own; you can't make a phone call if nobody else has a phone. In that way, telephones (and similar communications systems) gain their value through becoming widely distributed. True, there's some value in being the only two people with a telephone while everyone else relies on slower communication; but what if your conspirator moves away from the phone? You need phones everywhere so you can keep in touch. The network gains greater power by spreading.

Geographic information has traditionally been used as a weapon, even while its creators don't consider it that way; but mapping is a way of exerting power, because it splits the world into the map-owning and the map-less. In the same way, before the internet, access to information was highly restricted: it was about who you knew, or whether you knew how to find data that might be physically distant from you.

The internet breaks down those physical barriers. It is unstoppable. It also makes it easier for people to add their own data to a set. Creating a map becomes a communal process. By 2015, almost all of the mobile phones being used in western countries will have a built-in GPS locator. Contributing to a map will become as easy as taking a picture of the scene, geotagging it, and uploading it to the site of your choice - as is already happening on a small scale.

The explosion in use will happen. A small cadre of people with smartphones such as the iPhone and Google Android-based phones are doing it, through services such as fixmystreet. Now, imagine everyone being able to do it. Imagine even a small proportion of people setting their GPS-enabled phone to record their location and surroundings and send it to an open mapping service to improve its content. Imagine 2015.

My personal focus of interest is in the development of the argument over whether public maps (such as that owned by Ordnance Survey) should be retained as "weapons" - with access to their content restricted only to those who pay or who know those in power - or made into "telephones", flattening the hierarchy of access to information.

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# The AGI Foresight Study - The UK Geospatial Industry in 2015

## An Expert Paper



The announcement in November 2009 that "mid-scale" OS maps would be made available for free indicates that government has seen the direction the technology is going. It's still unclear whether that data can be incorporated into Openstreetmap, the communally-generated map. Its open-source licence, which allows anyone to reuse it and anyone to add to it, turns it from an old-style map (a method of controlling power) into a telephone (an enabler of democracy).

The change is unstoppable. Comparing 2009 to 2000, the amount and quality of free map data has expanded exponentially. The amount and quality, and especially the value, of derived data based on those free maps has exploded. (OpenStreetMap has been a key player: it only began in 2004. In March 2009 it passed 100,000 registered users; in October 2009, 170,000. (The statistics of its growth are at <http://wiki.openstreetmap.org/wiki/Statistics> and tell a story of a network being created at breakneck speed.)

Meanwhile Google is already preparing a non-Crown Copyright map of the UK, piece by piece, so that it is not pinioned under the "derived data" rules - rules that Ordnance Survey has used, bizarrely, against public sector organisations such as the police which wanted to tell their taxpayers how they were using their funds. The OS position was unsustainable: it is inherently limiting to encourage use of its basic data while restricting derived applications to those who can pay substantial fees.

There's an explosion of data coming. Location-aware devices - such as air quality monitors, traffic sensors, temperature gauges, rain gauges, river flow monitors - are going to give us more data than we have ever had before about our environment. Google is looking forward to it: Marissa Mayer, its head of search, has been planning for that time for more than a year already.

Location, and data generated from it and tagged by it, whether by humans or machines, is the next wave of data. Maps are the key. And making access to those OS maps free is essential in the next stage of growth for the economy.

Can a free government-funded product really generate economic growth? Yes: look at GPS, which is funded by the US government. It has created the satnav industry, and now the GPS-enabled phone industry, with the (hard to quantify, but real) benefit of reducing fuel use through fewer lost drivers. Compare that to the EC's plans for the Galileo satellite positioning system, which would require paid-for access to satellite positioning data. It has been a resounding flop. GPS, being free, fits the bill. But the economic benefits are far from zero.

There is growing tension between the user of maps as a weapon and those using them as a telephone. There are multiple efforts, for example, to generate copyright-free derived datasets that are in effect duplicates of copyrighted ones: there are three aiming to generate a dataset of postcode to longitude/latitude pairs, and one trying to locate postboxes. At the moment, the weaponisers have the upper hand, just: it's not yet convenient for anyone to take a picture of a postbox and upload its geotag

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to a server. But 2015 is six years away. In 2003, the same distance in the past, the iPod was a curiosity; the iPhone, unthought-of. In 2003, OpenStreetMap didn't exist. In 2009, it covers dozens of countries in remarkable detail. Do not bet against the determination of the crowd. Give them the chance to import OS maps above 1:10,000 scale, and you'll have a crowd-owned work of incomparable value.

It's easy to assert that telephone-style free maps don't "work" for commerce: that someone has to fund the creation of high-quality datasets needed for, say, street works, local planning and land ownership databases. That is true. (And those were very carefully left out of the government's freeing of OS data.) The question is whether the approach driving those datasets is of creating weapons, or telephones. Especially when it may be real telephones that are helping create the datasets.

The year 2015 takes us to the end of the next Parliament. Political change is uncertain, but open data is unstoppable; the only question is when the government will realise this, not just for OS but for other piece of publicly-collected data that it tries to use as a weapon. Six years is plenty of time to turn it all into a telephone - the non-hierarchical network where everything is equal, and the same distance away.

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