Mapping's Complicated Media Impulse
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The use of the word "media" as a catchall for wide varieties of communication, especially in their popular print, broadcast, and digital forms, is about as old as they are, so maybe dating to the first quarter of the twentieth century. At the time the word was generally used in the phrase *mass media*, originally to refer to newspapers but, after World War II, to radio and magazines, to television. Its later extension, by academics, to refer to almost any form of communication doesn't date back much farther than the last quarter of the twentieth century, so the idea that "cartography is one of the oldest forms of *media*" is radically anachronistic, though very much in tune with the idea of *media's mapping impulse* which is anything but. Of course before there was a mapping impulse in media, there was an impulse in mapping toward distribution, toward media; and while this has a long and interesting history, from the very beginning suppression had a part in it.

As *we* know them today, maps are about six hundred years old. Of course there were all sorts of earlier maplike things, even some earlier maps; but there weren't very many of them – maybe one a year anywhere on the globe for the preceding couple of thousand – and consequently there was no development of any sort of mapmaking tradition. Not that the human ability to make maps is that recent: that's been with us since we've been human, but for millennia it was rarely exercised. I mean, what was the point? The world was small. It was very well known. And as people grew up they learned it as their parents had; they exchanged spatial information orally or used their hands or scratched it in the sand. There was nearly zero call for making maps which, as we have used the word for the past five or six hundred years, has referred to a more or less permanent, more or less graphic artifact supporting the descriptive functions in human discourse that link territory to other things, advancing in this way the interests of those making (or controlling the making) of the maps. Because the evolution of maps depends on the emergence of larger, more complicated societies, maps of our kind have comparatively shallow roots in human history; and in fact almost all the maps ever made

have been made during the past hundred years, the vast majority in the past few decades. So many maps are made today, and they are reproduced in such numbers, that no one any longer has any idea how many. The maps printed annually by no more than the world's newspapers easily number in the billions. All exhibit a fluorescent media impulse.

When societies in earlier periods *did* become more complicated, maps sometimes *were* called for. For the most part these had no or extremely limited media impulse – property maps in Babylon for instance, or property maps in medieval Japan – while maps with any sort of media impulse – the Forma Urbis Romae, for example – were rare to the point of uniqueness. And this was more or less the state of affairs when, more or less in the fifteenth and sixteenth centuries, maps began their maturation pretty much everywhere in the world. This parallels, of course, the emergence of the early modern state, in whose service the mutually supportive and simultaneously emergent maps played increasingly important, and increasingly strategic roles.

While the fact is that at this time the overwhelming majority of maps were made – usually in single copies – to support border control, for water management, for treaty negotiations, and for property control, none of which had particularly well-developed media impulses, maps were also made with the *opposite* impulse, that is, under the pall of secrecy. These maps concerned themselves with military intelligence, with the planning of battles, with the defensive and offensive postures of armies, with fortifications, and indeed with anything else that state officials could construe as valuable, often extending to maps of cities and territories. Often maps were drafted in single copies for people with "a need to know," and this at the very time that the printing press made them easy to spread around. Given that this was the same time that monopoly capitalism was on the rise, maps of routes, maps of trading partners, maps of colonies too were commonly for "eyes only." For example the maps and sketches made during Drake's circumnavigation of the globe were regarded as state secrets, while a Portuguese charter of 1504 banned the making of globes and it limited the mapping of the African coast to that north of the Congo; Dutch practice was similar; the Hudson Bay Company sealed its map archive to all outsiders; and so forth and so on.

Among other impulses pushing states to relax this control – never fully given up, operating around the world as I speak – were the absolutely positive benefits to be gained from the widest possible circulation of routes, claims, colonies, borders. For example, as a bulwark against encroachments, a Qing emperor of China published an atlas that laid out what China was to the rest of the world; just as British maps of its North American territories were deployed to help readers on both sides of the Atlantic understand who was in charge. Indeed as artifacts that *constructed the state*, that literally helped to bring the state into being, maps were endowed with their strongest media impulse: they were literally pulsed out into the world to enable citizens and aliens alike to participate in their graphic performance of statehood. Territorial structures of other sizes understood this equally well, and so the media impulse of mapping became widespread, embracing

estates, towns, cities, counties, provinces, states, nations, and national alliances, even being used as a form of advertisement. Today the impulse has diffused throughout the endlessly diffusing world of mapping without, however, diminishing the countervailing demand for secrecy one iota.

Perhaps not surprisingly the greatest practitioner of this sort of secrecy was the world's greatest empire, an improbable amalgamation of much of central and northern Europe, the Iberian Peninsula, the entire New World, and the Philippines, with claims in the East Indies, along the Indian and African literols, and even, if only in mind … on China. From 1519 on, Charles V was the Holy Roman Emperor, which is to say of Austria and Germany; ruler of the Spanish Empire with its New World and other possessions; of the Netherlands; of southern Italy; of Sicily; and of Sardinia. When his son, Phillip II became the King of Portugal, he took over the widespread Portuguese territories as well, including Brazil. Though by then his father had given up his title to the Holy Roman Empire, the phrase, "the empire on which the sun never sets," was used with respect to the swaths of territory over which Phillip held claim. That is, from 1516, when Charles assumed the thrones of Castile and Aragon until the death of his son in 1598, a big piece of the world was under the ultimate control of a single man for whom the ultimate source of power was the gold, and then the silver that flowed from his mines in Mexico and Peru. Though Phillip regarded all this as his personal property he actually had at best nominal hegemony over his myriad ethnic groups, nationalities, and confessions, and in the end what held the Spanish Empire together was its fabulous wealth, wealth continuously being ferried to Spain across the Atlantic and Pacific Oceans in fleets of galleons.

With respect to these fleets, to these fleets and the territories whose wealth was being plundered, Charles and Phillip took a defensive posture, one that both censored and prohibited the circulation of maps, descriptions, and historical accounts. Maria Portuando says:

> The rationale behind the secrecy policy was very straightforward. If documents that revealed the geodesic coordinates, geographic features, coastal outlines, hydrography, and natural resources of the New World were produced and circulated publically, these, in the hands of enemies, could be used to reach the New World and inflict harm on the crown's patrimony and the people the state had the obligation to protect. Thus this type of knowledge was considered to have strategic, defensive, and monetary value and needed to be safeguarded from foreign and internal enemies alike. (Portuando, 2009: 7)

In doing this the Spaniards were following in the footsteps of the Portuguese who had prohibited the circulation of nautical charts, rutters, and other descriptive material about their discoveries as early as 1481. By 1503 the Spaniards had set up the Casa de la Contratación – the House of Trade – which had full jurisdiction over colonization, of which an essential part was navigation, including rutters and sea charts. All of this was

put under the control of the Council of the Indies following its establishment in 1523, above which the crown (with its bureaucracy) stood alone

For most of the sixteenth century, then, the way things worked was as follows. The Casa de la Contratación maintained a secret map, later maps, accompanied by a book collecting pilot statements, jointly known as the *Padrón Real* (later the *Padrón General*). One copy of the *Padrón* was kept in a locked case in Seville (where the Casa was located) while a second was maintained at the Council of the Indies with the royal court. This official master map was the template for every chart carried in Spanish ships throughout the sixteenth century. We have records of twelve major revisions to this master map, though the map was made on parchment to permit, and indeed to encourage continuous refreshment (Sandman, 2007: 1142). A ship returning from a voyage would present its chart and rutter at the Casa de la Contratación from which everything not in the original material would be extracted and applied to the *Padrón Real*, which in this way was regularly updated; though when more wholesale revisions were required the whole would be scraped and a new *Padrón* created. Typically this happened in the midst of heated debate, and indeed it's only from the records of these meetings that we have any of the information we have about the *Padrón*. Here's how secret these *padrones* were: *none* has survived. The only reason we have *any* idea what they were like is because decorative versions were made to be given by the king as royal gifts (Padrón, 2011).

All ship pilots were obligated to be licensed, and as part of the process of licensure, pilots had to swear not to give, sell, or lend their charts to foreigners (Sandman, 2007: 1104). The chart makers responsible for copying the *Padrón Real* had likewise to be licensed, and furthermore their product had to be inspected and approved as well. Although rules and regulations varied across the length of the two reigns, in general getting increasingly tighter, the cosmographer in charge of the *Padrón* and the pilot major both had to inspect the charts at the pilots' licensing exams; they had to inspect them before each voyage; and, before allowing a ship to sail, a port inspector had to certify that the earlier inspections had actually taken place.

The journey taken by one of these charts was therefore roundtrip: copied from the *Padrón Real*, carefully inspected before sailing, and then at the journey's end returned to the Casa de la Contratación where, after being milked, it was often destroyed. How many of these charts has survived? Again, none: they too were kept that close. An interesting point is that, while these charts evidently had *no* media impulse at all, their mere existence points to the media impulse behind the *Padrón Real* itself which was, after all, maintained to be copied, literally hundreds of times as the century wore on. Perhaps we should think about the *Padrón* as a secret shared.

When all this came to end with the death of Phillip II – though by then the secrecy had been fraying for years – it not only came to an end, it reversed itself. Portuondo says that:

> Under Phillip II, the value of geographical knowledge lay in how it could provide an intelligence advantage in the case of war or defense, or a way of protecting economic assests by keeping them "hidden" from covetous enemies. For Phillip III, geographical knowledge was most valuable if it could be deployed, albeit properly contextualized, to create a public image of Spanish domination and prestige. Demonstrating this knowledge to the public worked to create the perception that Spain, because it knew its territories so well, controlled them effectively. (Portuondo, 2009: 260)

thereby exhibiting the positive benefits to be gained from the widest possible circulation of routes, claims, colonies, and borders.

But the reign of Phillip II produced a plethora of secret maps other than those of his colonies or those enabling the trans-oceanic movement of silver. For example, there was the planning and implementation of his invasion of England, which required maps and guidance for no fewer than 130 vessels, guidance which, given the paucity of experienced pilots, meant detailed descriptions (perhaps two of these maps have survived (perhaps)). And Phillip planned his wars on land with the same cartographic care. One of these concerned Phillip's commissioning in 1558 of Jacob van Deventer to measure and draw the towns of the Low Countries, together with nearby villages, rivers, roads, and defenses, and "to arrange all in one book that shall contain a map of each province followed by a plan of each town in particular," as the commission put it (Koeman and van Egmond, 2007: 1272). These images weren't published for three hundred years. Another effort involved the movement of 10,000 troops from Phillip's garrisons in the north of Italy to the Low Countries – then in revolt – along a route through neutral territory that became known as the Spanish Road. This army was led by the Duke of Alba who, in addition to a new map of Franche-Comté – whose publication he then forbade for twelve years – commissioned two maps which, in Geoffrey Parker's words:

> … reveal everything that an army on the march needed to know: the route it should follow, the bridges available, the impassable obstacles (rivers and forests), the alternative itineraries, and the position of the nearest towns. The maps are highly selective and schematic; the anonymous cartographer omitting everything irrelevant to the army's need. (Parker 1972: 73)

None of these maps, of course, was ever published, or at least not until the late twentieth century.

Nor was Spain alone in making secret maps for military purposes. Henry VIII's break with Rome over his divorce from Catherine of Aragon led to a destabilizing break with Charles V and with Francis I of France. This in turn led Henry to a sudden interest in the defenses of England, and so to a sudden commissioning of maps of his coasts. These were followed by a profusion of plats made by military engineers who, sent as spies, produced maps of the French and Dutch coasts. Few of this increasing multitude of maps have survived and none was published until the nineteenth and twentieth centuries.

These maps were made to be *used* – some were little more than sketches – and their preservation was never a priority. They had absolutely no media impulse. Neither did most of the maps produced under Henry's heir, Edward VI, or that of Edward's half-sister, Mary, though those that emerged under *her* half-sister, Elizabeth, while including plenty of secret maps, *were* more or less well preserved; and very many displayed a florid media impulse, especially given the map-obsession of her principal minister, William Cecil (Lord Burghley), though the annotations Burghley made on his maps, many concerned with defense, had *no* media impulse at all. Nor did the maps made in France under Henry IV by Jacques Fougeu in his role as lodging-master. Fougeu made hundreds of maps, none very elegant, for as David Buisseret says:

> … they were basically field notes, designed to tell lodging-masters how many hearths they could find in the villages along a given line of march. But these scrappy-looking little maps together form an astonishing compendium of information about France's towns and villages around 1600. Take, for instance, Fougeu's map of the mouth of the River Sonne. It has a roughly correct outline of the river and coast, and also marks, in about their correct position, over one hundred towns and villages. The only readily available contemporary printed map, in the *Theatrum* of Ortelius, marks just twelve towns in the same area … The king thus possessed a remarkable source of information. But it remained secret. (Buisseret, 1992: 109-111)

Need I add that none of these maps was ever published, or not at least until the later twentieth century: *their* media impulse was *less* than zero.

But then war has always been the most fertile ground for the propagation of maps with severely limited and tightly chained media impulses; and over the past four hundred years these were produced with ever-increasing abundance and in ever-increasing frequency. Militaries evolved over this period, of course, and drastically, but they never ceased needing the most up-to-the-minute knowledge they could develop about the world around them; and as colonization became an ever more present reality, and as wars moved to increasingly larger stages, more and more often militaries found themselves needing maps of the entire world, maps with a degree of detail, of detail *and accuracy*, that civilian maps could only dream about. Naturally enough these maps, along with the mapping projects that produced them, had to be cloaked in the greatest secrecy.

The most recent episode of secret military mapping – that has been reasonably declassified – was that carried out by the US and the Soviets during the Cold War, which ran from, say, 1947 to 1991. The two main superpowers competed for domination, and with their development of atomic and then hydrogen weapons, the need to know what was going on inside the Soviet Union and China became as acute for the US, as knowing what was going on in the US became acute for the Soviets. "Ordinary" spying provided only so much help, while overflights with existing aircraft were too easy to detect. Though Lockheed had developed the U-2, a single-jet-engine, ultra-high altitude

reconnaissance aircraft, for the CIA as early as the mid-1950s, Soviet radar still proved capable of tracking its initial overflight in 1956. So when four years later the Soviets shot the aircraft down, the US launched its first successful reconnaissance *satellite* (part of a program actually begun in 1958), and this first Corona mission provided far more photo coverage of the Soviet Union than all the U-2 flights taken together. This was a return-film satellite, that is, a satellite that jettisoned its film canister for mid-air recovery, and the film provided *very* high resolution imagery: by 1963 the system had attained a resolution of 3 meters, which increased to one-and-a-half meters in 1967 (Ruffner, 1995). This top secret program, declassified only in 1995, achieved, among others, the world's first photo reconnaissance satellite; the first recovery of a vehicle returning from space; and the first mapping of the earth from space (a total of 520 million square miles of it!). Commercial satellite imagery, not available until 1972, when Landsat was first launched, had a resolution of only 80 meters, which over its long history gradually increased to an average resolution of 30 meters (though under special conditions this could be increased to 15 meters). Today it's assumed that military sensors can achieve resolutions up to 10 cm. Nobody knows, of course. It's totally secret.

I probably shouldn't have to say, but the Soviets had a perfectly parallel development and deployment of reconnaissance satellites, its Zenit series, which flew from 1961 to 1994. These too used return capsule systems, though the Soviets retruned the cameras along with the film. Apparently these had comparable degrees of resolution as well. It's assumed that they contributed to the extraordinary topographic maps the Soviets produced of much of the world, including the US. These had a richness of detail that exceeded any potential source material, things like "the precise width of roads, the load-bearing capacity of bridges, and the types of factories" (Miller, 2015), although much of this would have been available only to eyes on the ground. The maps were surrounded by the usual fences of security, signatures, returns. "Even if it gets destroyed, you need to bring the pieces back," Miller quotes a former Soviet soldier saying. There were maps inaccessible to ordinary soldiers too, as they yet remain to us. Again: no media impulse at all.

The fact is, despite the implicit media impulse *au fond* in the map's being a discourse function – an impulse implicit in *every* instance of military mapping – maps actually have no inherent drive to be sown broadcast on the wind. To be sure they are a communication device, but in the end there really *is* a difference between communication and media, a difference residing in media's *compulsion* to be broadcast and the mere *potential* for broadcast residing latent in communication. It's that between the cooing of lovers nestled in each other's arms and the embracing lovers emblazoned on the billboard advertising the next cinematic blockbuster. Maps *can* rise to that level of notoriety – I mean *The Power of Maps* poster was plastered on the sides of 5th Avenue buses during the map show's run in New York – but they can also be as reticent as … the grave.

Sources

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