

## The Many Uses of Maps: The Producer at the Center

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Most of us encounter a map, or some sort of cartographic device, on nearly a daily basis. This is true whether or not we are conscious of the occurrence. We may be planning or imagining our travels, or conceptualizing a project, but we somehow interact with the map, whether written or visual. When we read an heroic novel, we track the journey. When we hear the news of wars or weather, the map functions as a communicator and guide. The purpose of this essay is to give an overview of map uses, but not strictly from the vantage of the individual use or user. The producer of the map -- whether an individual or group, whether a financier or artisan -- is at the center of this conversation. The producer will likely have planned uses for a map, and may themselves be a user, but without their construct the map does not exist.

### Introduction

Almost every discussion of the history of cartography necessarily deals with implied or overt uses of maps (Edney, 2006). Very few essays, however, are specifically written as an overview of the uses of maps (Carter; British Library, 1989; British Library, 2006). While there may be a number of perches from which to view the subject, including the specific use or user, I think the most encompassing view is to put the map producer at the center. This is not conceptually unique:

*"...we must be concerned that not only do we get the right data to the user but that we get the data right." (Ormeling, 1997)*

Although Ormeling's comment is focused on modern map use, the ideas conveyed are equally applicable to almost any map of any historical age, whether cartographic, cosmographic, or metaphorical. Even in the case of intentional misrepresentation (Monmonier, 1996), the producer still wants to get the "data right," albeit for what may be deemed less than honorable purposes.

### Producers, Users, and Uses

The concept of map producer is more nuanced than may initially be apparent. This idea of a map producer can vary over time, hence the single hand of the manuscript map, the diverse participants in the letterpress and coloring processes from the early days of the printing press (Woodward, 1975), to the modern digital world where images are rapidly produced on demand for a variety of persons and circumstances. Even in the days of the manuscript map, the influence of royal or ecclesiastical patronage must be considered as part of the production process. A major funding source is often a substantive influence on the planned use for a map

The producer may be an individual or a group; the producer may control varied software programs to customize the map production intended for personal or outside use (Tulloch, 2007). A map may be of value to the producer for a variety of reasons including economic gain, intellectual rep-

utation, imaginary or planned itineraries, or educational concerns. Sometimes the producer never intended a specific use of a map. For example, early mapmakers would not likely have predicted certain types of modern analysis of their cartographic outputs as historical documents. Modern digital overlays of historically significant maps were not considerations for early map producers. Waldseemüller would never have conceived that his maps might be “warped” (Hessler, 2005).

I do not intend to present a chronological tale of production methodology and its relation to varied map use. There is certainly a developing literature looking at the ties between map production and use (Pedley, 2000; Pedley, 2005). This essay is a synchronic analysis, considering that maps can be considered linguistic and semiotic constructs. The synchronic view of the history of cartography is hardly unique, and there has been longstanding criticism of the perception of the history of cartography as a temporally linear progress of scientific advancements (Blakemore and Harley, 1980). Christian Jacob recently emphasized the synchronic approach in his intellectually wide-ranging and thought provoking book, *The Sovereign Map* (2006, p. 263). Figure 1, while a simplified construct, depicts a mind-map summarizing the perspective used in this essay. It should be emphasized that many areas of use may intersect and overlap through the producer.

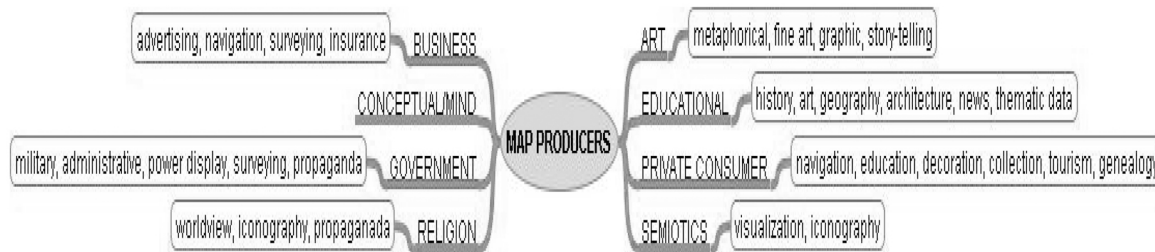


Figure 1. Mind map of the interrelationship of map uses, with the central producer.

It would not be unreasonable to take an historical approach analyzing the varied styles of map use: the authoritative iconography of medieval mapamundi; navigational maps reflecting various modes of land, sea and air travel; military maps for tactical, strategic and commemorative purposes; maps by and for religious and governmental agencies for purposes of administration, iconography and power display; maps for business use including surveying and advertising; fictional maps for metaphorical and artistic design, and imaginary places; educational maps for diverse classrooms and personal scholarship.

Detailing the specific dates of historical appearance for all these forms and functions is beyond the scope of this essay, although diachronic analysis of the varied linguistic and semiotic functions of maps would complement my central point: the map producer has always been a conduit connecting uses and users. Yet the producer is at times also the user, which is readily apparent in today’s world of MapQuest (<http://www.mapquest.com/>), Google Maps (<http://googlemapsmania.blogspot.com/>) and Google Earth (<http://earth.google.com/>). These latter examples also highlight the role of software developer as map producer.

James Carter, in his online essay “MAP USE – The Many Dimensions” (<http://www.ilstu.edu/~jrcarter/mapuse/>) conceptualizes six basic dimensions of how and why maps are used, based on ideas developed by the Map Use Commission of the International Cartographic Association, 1995-1999 (<http://www.ilstu.edu/~jrcarter/mapuse/commission.htm>).

The uses of maps are one of those six dimensions, but are also integrally related to the other five (users of maps, environments in which maps are used, nature of the map or maps being used, communities of map users, societal uses and abuses of map use). All of these considerations implicitly involve the map producer, without whom none of the conversations would take place. The producer creates part of the environment for map use, has a significant hand in determining the nature of the map, and is simultaneously part of the map user community. The producer can and does influence societal uses and abuses of all maps. These considerations are applicable to virtually any method of map production in history. In addition, as implied above, any person or agency paying for map development is integrally linked to the role of producer (Barber, 1992), and hence an influential force in the eventual use of the map.

The British Library has, over the years, produced several small pamphlets directed at the idea of map use. In 1989 they produced a monograph titled *"What Use is a Map?"* (Note: Although the title, in modern parlance, might be taken cynically, that was clearly not the intent of the publication.) The publication was divided into six sections: Going Places, Running A Country, Attack And Defence, The Riches of the Earth, Having Fun, and Knowledge And News. As can be seen from the headings, one can create a good bit of overlap between the groups. The producer remains central to the perceived function(s), even if not consistently a consumer of their own cartographic output.

The second and more recent (2006) pamphlet from the British Library is titled *"DISCOVER How maps can help your research."* The short subsections are now expanded to fourteen in number: Business, Social History, Science and Environment, Family History, Law, Military History, Topography, Recreation, Travel, Local History, Art History, Landscape Studies, Creative Arts, and History. The basic centrality of the producer to the users and uses has not changed.

The mind-map conceptualized in Figure 1 emphasizes this centrality of the producer, and also emphasizes overlapping and intersecting uses by diverse users. The producers themselves are not excluded from user groups. This conceptualization diagram could be made much more complex, with an array of bidirectional arrows designed to show hypothetical interrelationships between the complex processes of map use and production. My interest is not, however, the creation of a conceptual maze.

I have empirically selected to portray eight main map user "nodes", each requiring one or more producers, who may themselves be consumers of the varied uses for maps. These groups are: Business, Conceptual/Mind, Government, Religion, Art, Educational, Private Consumer, and Semiotics. I am using the idea of user and producer conceptually, not necessarily embodied as a single individual. Others might add or subtract groups, but this does cover a broad conceptual expanse. The producer remains central to the map, able to influence the effectiveness and reach of the cartographic product.

Taking each group individually, business map use occurs for quite a large number of purposes: to advertise a product, emphasize retail locations, survey land holdings for legal or developmental purposes, or for insurance purposes. If the business relates to map production itself, there are the elements of economic gain and industry status from their own product.

Conceptual and mind mapping are tangential subjects in their own right (Novak, 1982; Mento et al, 1999), and have a diverse group of users, overlapping with many of the other groups. The main focus is the map as a plan, though intellectual rather than geographical.

Governmental uses of maps are numerous on local, state and federal levels. It is hard to imagine any modern government stripped of cartographic capabilities, either in terms of historical development or current function. Surveying becomes crucial for purposes of land use (Kain and Baigent, 1992), taxation, infrastructure development, maintenance of an existing political system (Monmonier, 2001; Black, 1997) and more. Map use by the state for purposes of tactical and strategic military functions are well described (Duffy, 1979; McElfresh, 1999), as are the related uses for displays of power (Crampton, 2001; Buisseret 1992) and other types of political propaganda (Harley, 1988; Harley, 2001; Monmonier, 1996; Wood, 1992).

The uses of maps by the forces of religion are likewise well entrenched, not infrequently overlapping with many of the same concerns as secular government. One can argue that there exists a spiritual way-finding function. The use of the medieval *mapamundi* as vehicles to enforce and maintain a particular worldview is well described (Edson, 1999), and virtually all civilizations have both cosmographic and cartographic mapping roles within their cultures. Religious users are also concerned with various administrative issues and propaganda (Harley, 1988; Kark, 1993), and specialized types of iconographic displays (Delano-Smith, 1990; Fiorani, 2005; Woodward, 1985).

Artistic uses of maps are likewise exceptionally diverse, and may appear in the worlds of literary, graphic and fine arts. Over the past two decades, a number of books (Casey, 2002; Fiorani, 2005; Harmon, 2004; Woodward, 1987) and articles (Cosgrove, 2005; Krygier, 1995) have discussed numerous and increasingly diverse aspects of maps in and as art. The artistic iconography of maps has been studied (Cosgrove and Daniels, 1988; George, 1969). *Cartographic Perspectives* (No. 53, Winter 2006) recently devoted the bulk of an entire issue to the theme of art and mapping, showcasing several thoughtful and eclectic perspectives, including the mapping impulse reflected in modern art.

The use of the map as a metaphorical literary device has a long record; the map has served as a guide to a hero's journey (Campbell, 1949; Tolkien, 1954-1955), representing places both real and imagined (Post, 1979). There are reflections on the poet as mapmaker (Haft, 2001). The concept of map can serve as structural scaffolding for the creation of an entire work of fiction (Turchi, 2004), or the map can be used as a backdrop to highlight the literary history of a region (Hopkins and Buscher, 1998).

Educational uses of maps are almost too numerous to mention, and can date to the very earliest appearances of letterpress books, beginning at least in the late fifteenth century (Library of Congress, 2002). Maps are used at most educational levels and cross the boundaries of innumerable intellectual disciplines, including (but not limited to) history (Black, 1997), literature, art, geography, cartography, science, medicine (Koch, 2005), linguistics (Kirk and Kretzschmar, 1992), urban studies (Kagan, 2000) and architecture (Greenberg, 2006). One recent publication discusses the roles of maps and geographical texts in the formation of literacy from early Colonial America to the early Republic (Brückner, 2006). Maps have, for generations, been a frequent device in the context of reporting the news (Monmonier, 1989) and weather (Monmonier, 1999). Maps can, therefore, serve educational roles for many user groups; these roles are not confined to a conventional classroom.

Individual citizens have a multitude of uses for maps, including visual and verbal itineraries (Delano-Smith, 2006), the pursuit of genealogical history (US Geological Survey, 2002), personal education, collection (Manashek, 1998) and artistic display (Welu, 1978). The use of maps for vacation

and business travel has a long and rich history (Akerman, 2006).

The uses of maps to study linguistics (Chang et al, 2002; [http://en.wikipedia.org/wiki/Linguistic\\_map](http://en.wikipedia.org/wiki/Linguistic_map)) and as linguistic devices (Jacob, 2006, pp. 189-268; Warhus, 1997) have received distinct intellectual attention. Maps have long been considered a variant form of communication, requiring skills at times separate from those needed to interpret the written word (Harley, 1987; Winter, 2004; Woodward, D. and Lewis, G.M., 1987). Maps have, not surprisingly, been analyzed in conjunction with the field of semiotics (Edney, 2006, pp. 13-15; Collins-Kreiner, 2005). I am not arguing for the validity of any specific view of maps as linguistic or semiotic devices, although these discussions repeatedly surface in literatures in and out of the history of cartography.

### Concluding Remarks

I have attempted to give some idea of the breadth and depth of map use in modern and past cultures, not in terms of chronologic history, but as an overview of what has already occurred. My perspective emanates from the producer, without whose efforts no map would exist. There is no attempt to provide a definitive list of producers, as this nuanced concept can range between a single individual to a network, from a financier to an artisan, and from a theological to a secular organization.

It is difficult to imagine any major element of modern commercial, political or intellectual life that has not been touched by the cartographic wand. It is equally difficult to picture our current lives and cultural existence without the map (Linklater, 2002; Pickles, 2004). It is simultaneously ironic to consider some predictions of the demise of the paper map (<http://ccablog.blogspot.com/2006/04/demise-of-paper-map.html>), and the general lack of geographic and map-related education (<http://www.cnn.com/2006/EDUCATION/05/02/geog.test/index.html>). There are a few voices calling for broad improvements, emphasizing the "unity of knowledge", to supplement our specialized and fragmented educational system, so often focused on training for future employment (Gregorian, 2004). Many institutions have ceased instruction in basic geography, and access to instruction in the history of cartography is sparse (Campbell, 2005). I do not believe that these formal educational considerations are independent of the current or future use of maps in our lives, maps that touch many of us, consciously or not, on a daily basis.

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