

Mapping Urban Space: the production, division, and reconfiguration of natures and economies

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Abstract

In this paper, I engage with the notion of the city as capitalist space, focusing on the specific actors that come together to realign economically heterogeneous spaces into the monolithic, capitalist city. By tracing the role of cartographic practice in enacting the city as a space of industrial economic production in the nineteenth century, I show how maps helped to bring the capitalist city into view by "drawing together" (Latour, 1990) cartographers, city managers, and ordinary citizens, enabling the apprehension the city as an economic object by emphasizing a specific understanding of what cities looked like, how they worked, and what happened in them. In addition, I examine the place of urban nature within this emerging urban imaginary, and its role as a counterweight to the purported totality of the capitalist city. To illustrate these points, historical maps drive a discussion of the specific case of Philadelphia, focusing on two events that coincided with the expansion of the industrial city: the consolidation of the city in 1854 and the establishment of Fairmount Park in 1868. The paper concludes with a discussion of the political possibilities that are opened up by an assemblage-oriented approach for examining the early development of cities.

Keywords: urban assemblage, cartography, industrialization, Philadelphia, urban parks

Introduction

It only requires a glance at the map [...] to convince any one how important it is to secure this piece of land, to make [Fairmount Park] all that it should be — a most eligible and beautiful tract with boundaries free from objectionable features.” (*Daily Reporter*, November 16, 1854)

The field of urban political ecology (UPE) has long been interested in applying Blaikie and Brookfield’s (1987) interest in coupling the concerns of ecology with those of political economy to the relationship between capitalist economic practice and urban nature. Over the last decade, UPE has firmly established a position that takes a critical stance on urban environments through a theorization of society in which the urban is a distinct historical expression of capitalism (Heynen et al 2006). Yet, even as UPE emphasizes the consequences of "metabolic" capitalist processes on the distribution of and access to urban nature to address the development of urban environments (Heynen 2003, Heynen et al 2006, Swyngedouw and Heynen 2003), it combines this agenda with insights that emerged from post-structural and post-humanist theory, placing questions about the consequences of environmental discourse and socionatural assemblages at the center. Among its key contributions is an investigation of the role that environmental discourses have on the collective imagining and material conditions of urban spaces through the construction of particular types of landscapes, subjects, and practices. Cowell and Thomas' (2002), for example, describe the power of hegemonic regional discourse formations to silence otherwise progressive political activity. More recently, Kaika and Swyngedouw have argued that, despite a general consensus among academics regarding the

fluidity of the concept of “nature”, a growing agreement that nature is “radically out-of-sync, singular, under threat and in need of saving” has emerged among global policy-makers (Kaika and Swyngedouw 2012, p 25), producing a “post-political” moment in which the only rational goal is to maintain the status quo (Swyngedouw 2009). Focusing on earlier stages of urban development, Gandy’s work on the "urban pastoral" in the nineteenth century offered a detailed historical analysis of the formation of discourses of nature in New York City through the struggle to provide drinking water to expanding urban populations, as well as the establishment of Central Park (2002). Similarly, Kaika (2005) explores the role of the technological networks associated with water as “wish images” that resulted from and drove forward “modernity’s Promethean project” in the 19th and 20th centuries. More recently, Gandy (2012) has sought to move toward an analysis of urban space that “challenges categories and ‘mappings’ in their broadest sense so that we encounter a challenge to ‘neatness’ in relation to human subjectivities and material landscapes alike” (p742). Together, this work seeks to reveal the multiplicity of forces that collude in producing urban spaces, including the ability of urban environmental imaginaries to make visible or invisible any number of potential modes of interaction between the human and the non-human.

This paper carries forward this agenda by exploring the role of cartographic practice in the solidification of industrial urban space in the 19th century, in part through its visual juxtaposition against nature, in order to shed light on what Amin and Thrift call "the numerous systematizing networks [...] which give provisional ordering to urban life" (2002, citing Latour, 1988). In examining an assemblage of actors that came together to produce urban space as a space of capitalism, I trace the process by which economically heterogeneous "urban" spaces

were realigned into a more regularized capitalist space through cartographic representation in nineteenth century Philadelphia.

To that end, this paper draws from recent writing on the social and political nature of maps that incorporates, but goes beyond an approach to maps that interrogates them for the underlying statements and hidden messages they contain, to examine the activities that maps, as particular kinds of actors, engage in (Crampton, 2009, 2010; Kitchen and Dodge, 2007; Pickles, 2004). Thinking of the map as “not a representation of the world but an inscription that does (or sometimes does not do) work in the world,” John Pickles, for example, urges that geographers “begin to think about the production of space and the social lives of maps as embedded practices of complex overdetermination” (2004, p 67). Investigations of this kind conceptualize map-makers, map users, and landscapes to be mapped – as well as physical inscriptions on paper – as participants in larger mapping assemblages that together produce the world, even as they are themselves produced through these relationships. In Latour's terms, maps are “mediators” rather than “intermediaries”, actors that are capable of changing the flow of power through them rather than objects through which power flows unhindered (Latour, 2005 pp. 9). From this perspective, maps are no longer seen as inert, nor even as stable components of discursive formations, but active matter that at times enables human designs and at others contests them.

In this spirit, Kitchen and Dodge critique the ontological status often afforded to maps, arguing that inscriptions on paper or other media possess no *essence* as maps, but are only brought into being *as* maps through their participation in “mapping assemblages”, which are made up of other human and non-human actors (2007). They contend that when maps are transported from one place to another, the information they were meant to record doesn't remain intact;

instead, that information is contingent on a number of other actors existing in the place where it was produced, some of which follow the map in its journey, and others of which do not (c.f. Latour 1986). For this reason, Kitchen and Dodge urge us not to think about maps as the object of analysis, but about mapping, in which the production and use of cartographic inscriptions are creative acts that require a series of entangled interactions: interrogation of the map by the user, a “response” by the map, a referral and comparison to the surrounding landscape. Mapping is an iterative process whose outcome can not be foreseen, but emerges through the process of "mapping" – the performance of the mapping endeavor by a network of entangled actants.

In this sense, maps have enabled the formation of distinctly urban and non-urban spaces, in which the meaning of those spaces can be read through a moral system that was intertwined with the proper functioning of a capitalist economy. Along these lines, Söderström (1996) is especially interested in the effects of particular kinds of urban representations at key moments in the historical formation of cities to open up new “intellectual and cognitive possibilities”. Specifically, Söderström argues that “modern urban planning finds the grounds of its possibility just as much in [the geometric urban plan] as in particular political and cultural transformations.” Söderström argues that maps are effective “internally” in the sense that they are techniques for moving conceptually from a complex reality to an ideal rendering, and “externally” in the sense that cartographic visualization convinces its audience, partly by virtue of the assumed expertise of its creators, that what they represent is objective truth. In the latter sense, maps (and mappings) are, to borrow a concept from John Pickles, "ob-scene": they "[directed] attention towards ... a particular rendering of a scene" (2006).

My aim in this paper is to explore how cartographers in the 19th century achieved this

scene-rendering by enrolling maps in governmental projects as they assembled particular facts about the urban spaces they sought to represent, producing truths about the city as a particular kind of economic form, with an essential and inevitable tendency toward spatial, economic, and technological growth, development, and expansion. Of course, this vision of the city was not itself solely responsible for urban expansion, nor did it predate some forms of industrial activity; rather, I argue that each was necessary for the other. Through a close examination of cartographic practices in the nineteenth century in one city (Philadelphia), I demonstrate that such practices performed an active role in helping to accomplish the complicated work of bringing the capitalist city into view by "drawing together" (Latour, 1986) cartographers, city managers, and ordinary citizens. In this way, maps helped to produce urban spaces *as* urban by enabling the apprehension the city as an economic object, and by organizing the everyday practices that constituted it around a set of assumptions about what cities looked like, how they worked, and what happened in them.

To illustrate this process, I focus on two stages in what ultimately was a twenty-year project in the mid-1800s that made possible the formation of the industrial city as we have come to know it. The first stage was the consolidation of the city of Philadelphia that brought under a single political, cultural, and economic banner the disparate governing bodies that once surrounded the city's colonial core. In preparation for consolidation, the extension of the industrial city into more and more distant lands was aided by the efforts of cartographers who worked to create maps of the region as a populated, gridded expanse, a homogenous economic entity. I also discuss a second set of events, associated with the establishment of Fairmount Park by the Pennsylvania State Assembly, which enclosed an explicitly non-urban space at the center

of the newly consolidated city, naturalizing the oppositional relationship between the urban and the natural, making visible a clear division between two categories of space and, consequently, two categories of behavior for urban subjects. In both cases, cartographic representation of the city of Philadelphia played an active role in shaping urban space by enabling a shift away from an economy based on water-power, which comprised dispersed sites of agrarian and artisanal production along waterways, toward a coal-based economy, which lent itself to more standardized industrial production, greater concentration of human populations, and the naturalization of an industrial working class. The two cases explored here demonstrate the contingent nature of such processes on the participation of cartographers, government officials, and citizens, the selection and mobilization of certain facts over others, and the ultimate reshaping of spaces according to new logics of organization. In this way, maps inscribed "urban" characteristics upon the landscape as well as upon the bodies of people living in it. In examining the effectivity of maps in this way, I trace the social networks through which the maps were produced and circulated via an examination of government documents, newspapers, and popular writing from the 1850s to the 1890s, examining the totalitization of space by maps as well as the "intellectual and cognitive possibilities they open up" (Söderström 1996).

Before I begin with that discussion, a brief explanation of the maps themselves is in order. The maps included in my analysis were chosen for their prominent place in public life in 19th century Philadelphia. Most were funded by the city government and subsequently used to direct planning efforts, to settle property disputes, or to serve other administrative functions; but they also circulated widely among the public, often included in pamphlets and books, or sold as large-form wall maps in publishers' storefronts (for further discussion of publishing practices in

Philadelphia during this era, see Brückner 2010). Of course, the maps discussed here were not the only ones that circulated widely at the time. For example, two other maps speak to my argument about the cartographic expansion of urban territory. R. L. Barnes' map from 1855, and Scott's, from 1856, took a similar (if abbreviated) approach in this regard to Smedley's Atlas¹, which is discussed below. However, I draw on Smedley's map instead of others because of its author's official role as City Surveyor, the explicit governmental task of his project, and its subsequent use as a base map in other projects (including the map of Fairmount Park from 1868 presented here). All of these qualities underscore its central role in influencing the way the city was imagined and performed. Similarly, other maps of Fairmount Park, in addition to the ones included here, also circulated widely. Nevertheless, each of the maps discussed here served key roles in terms of offering a new and enduring vision of the city and its nature to those who viewed them. (For a broader discussion of maps from this era, see Gabriel 2012.)

The maps and supporting documents referenced here are housed in the archives of the Fairmount Park Commission, the Philadelphia City Archives, and the Free Library of Philadelphia. Archival work was conducted from 2008 to 2010.

Mapping the City

Map historian Jefferson Moak claimed that "Philadelphia is one of the few cities in the world to have been mapped before it existed" (Moak, 1976). In fact, mapping a city in advance of its expansion has been a fairly common practice for thousands of years. Rose-Redwood's "genealogy of the grid" cites examples dating as far back as the Indus Valley in the third

¹ Both Barnes' map and Scott's are available online at the digital Map Collection at the Free Library of Philadelphia's website - <http://libwww.freelibrary.org/maps>

millennium B.C.E., though not all grids served the same purpose (2008). To some extent, Philadelphia's grid fits what Marcuse called a "laissez-faire" plan, in which "the open grid is laid out with a view towards expansion and reduplication ... [where] the open gridiron is an initial step towards plotting an unknown and perhaps unlimited area capable of indefinite expansion", as opposed to a pre-capitalist grid plan that focuses inward and binds a city according to specific boundaries (1987, pp. 290-291, cited in Rose-Redwood, 2008). Thus, in some respects, the story of Philadelphia's industrialization was a fairly common one. At the same time, while Marcuse's observation is helpful for situating Philadelphia into a larger historical framework of urban planning, it would be a mistake to assume that the commonality of the map grid is an indication of a universal process. Rather, in order for industrialization to happen, maps had to do the actual work of drawing together specific actors, whose effects were contingent on the ongoing reformation of particular networks, and did not always accomplish the same work.

Maps have played a central role in helping to establish Philadelphia as a particular kind of city since its earliest days. In the passage quoted above, Moak was referring to the fact that, prior to its establishment, Philadelphia's founder, William Penn, distributed a map of the land granted to him by King Charles II of England in 1681, which depicted a hypothetical grid of well-ordered streets between two rivers, and served as a promotional tool in the sale of land to potential settlers (Figure 1). The map seems to reveal a flat and easily settled landscape, ideal for habitation by a dense human population; numbered parcels of the planned city assisted buyers in identifying and choosing their purchases, but the landscape it was meant to reveal proved elusive to Penn's earliest customers. The land, it turned out, was not as uniform as the map suggested; because of Philadelphia's situation between two rivers, many lots couldn't be settled initially

because the land was too saturated. Streams that weren't depicted on the map flowed directly through others. In addition, some of the land was already occupied by claimants who pre-dated the Penn land grant and, not surprisingly, resisted occupation (Corcoran, 1992). Yet eventually, Penn's map helped to redirect settlement according to his own urban imagination, away from low-density farmland toward a more orderly and denser political and economic center. The streets depicted on the map would eventually serve as the plan for the early colonial city.

[Figure 1 about here]

Thus, while it's clear from the historical record that Penn's map did not predate settlement in what would eventually become the city of Philadelphia, it did make possible a particular spatial pattern of settlement by illustrating and legitimating new property claims. Its use in Europe as a promotional tool helped to entice wealthy would-be settlers to invest in the new land, enabling settlers to imagine the landscape as a city, complete with public squares, tree-lined streets, and single-family lots. At the same time, this new "city" was not meant to be altogether separate from the surrounding country-side. Purchasing land from Penn entitled the buyer not only to a city lot, but also to an expanse of land further out, which the buyer could farm himself or rent out to others. In these ways, the map helped shape the future developmental trajectory of the site that would be Philadelphia.

The best land was that adjacent to major waterways since, from Penn's time until the early 1800s, water was the best and most reliable source of energy for the various mills and other production facilities that would be built there. (The abundance and extent of these waterways in the region can be glimpsed in Penn's map, one of the reasons he chose this site for his city). Waterways also proved important for tanneries, dye-production, and other manufacturing

processes that required easily-accessible waste outlets. Because of this reliance on water power, the machinery of production was distributed thinly across the landscape, where suitable areas could be found for this form of power generation (Adams et al, 1991). Consequently, throughout the eighteenth century and into the nineteenth, Philadelphia's economic landscape was dominated by artisanal and other small-scale forms of production, much of it integrated with agrarian practices in the surrounding pre-industrial "countryside" (Richardson, 1982). But in the early 1800s, with the invention of the steam engine and the rise of coal power, water power was no longer the only reliable means of producing energy (Wainwright, 1982). The discovery at the end of the eighteenth century of vast deposits of anthracite coal in Pennsylvania quickly led to an abundance of this (relatively) cheap energy source in Philadelphia, and production was no longer limited by the availability of fast-flowing water, or more expensive bituminous coal from Europe (Geffen, 1982). Yet, these conditions weren't sufficient to bring about a widespread shift from a diverse economic landscape associated with waterpower and agrarian production to one dominated by industrial production. In order for that to happen, a new geographic understanding of the landscape was required.

In 1854, an Act of Consolidation of the Pennsylvania State Assembly politically united Penn's original outlay of the city of Philadelphia with surrounding boroughs and townships, increasing the city's territory from about 2 square miles to 122 square miles. Consolidation helped to reestablish the economically-endangered center of the city as the political and economic core of the region, the site from which economic power would emanate. The act was justified according to two primary concerns. The most immediate was to provide a central political force that could exert control over unruly spaces and practices in the region: street fights

between rival volunteer fire companies, frequent riots, and corrupt local police forces were common in the 1840s and 50s just outside of the city (Geffen, 1982). Cartographic depiction of the city, then, was of enormous importance both in facilitating this unification and aiding in its comprehension, producing “legible”, controllable spaces (c.f. Scott, 1998; Harley, 2001; Craib, 2004). Yet, Consolidation also offered an antidote to a disjointed and dispersed governing structure and unwieldy tax-collection system (McCarthy, 1986). Thus, underlying more immediate concerns of social control was the perceived need to better understand and organize the region’s economy.

[Figure 2 about here]

Eli K. Price, a prominent Philadelphia lawyer and one of the consolidation bill's most vocal proponents, was elected state senator with the express purpose of seeing the passage of the bill through the State's approval process (Price, 1873; Geffen, 1982). Price wrote twenty years after the successful passage of the consolidation bill that, "The growing disparity [in population growth], between the City of two square miles and the residue of the County, is apparent from the [census data on] populations; and every year it would increase by the conversion of dwellings into warehouses and stores, within the former" (Price, 1873, pp. 12). Price saw the city's slower population growth as a consequence of haphazard economic development in the region, compared to the rest of Philadelphia County. The waning economic power of the city, as measured by census data related to population and economic output, particularly vis-a-vis New York City's more rapid growth, caused a great deal of anxiety to many, who were "met by the woeful fact of our being only the third city [after New York and Chicago], and that we were continuing to lose ground" (Rush, 1853, quoted in Price, 1873, pp. 31). This sentiment was also

frequently expressed in newspaper editorials at the time, in which the economic growth of Philadelphia was unfavorably (and self-consciously) compared to that of New York City (e.g. *North American and US Gazette*, 1853a). For Price and others, then, uniting the city with the other 28 boroughs and townships that surrounded it was a straightforward solution to an enormous economic problem; consolidation would make the dispersed but thriving regional economy more "easily comprehended" by the city's inhabitants and their government (*North American and US Gazette*, 1853b). In Price's words, "the expansion of the limits of the city [would] accelerate her commercial, manufacturing, and social prosperity..." (Price, 1873, pp. 27).

Thus, the consolidation map signaled a shift in the way the city was represented, and displays a much different picture from that found in maps of the previous two centuries, which tended to situate it within a vast, sparsely-settled, rural landscape, (for an example of such an early map, see Figure 3). In contrast to older maps, the consolidation map operated on an entirely different set of assumptions about the space of the city. In depicting it, the consolidation map is silent about a number of prominent features of Philadelphia's landscape. No effort, for example, was made to include the creeks, forests or other "natural" features encompassed by the city other than the Schuylkill River (to the west) and Delaware River (to the east), though these features were prominent both in the minds and in the everyday practices of the people who lived near them. In addition to the various waterways along which much of the region's settlements were found, topographical features of the landscape were also omitted, including a prominent hill called Fairmount, which had been featured in maps of the region for the past two centuries, as were forested areas, both of which would later re-emerge to great effect. The map does, however, include six railroad rights-of-way, a fact that was consistent with the economic vision the map

was meant to convey. The purpose of the consolidation map was straight-forward: to communicate the new conceptualization of the city as a single, homogenous, orderly economic entity, informed by Price's vision that Philadelphia and its environs were inevitably linked, and that they were "one community and should be one city" (Price, 1873 pp. 64). The appearance of this simple map in newspapers, pamphlets, and books helped to align the act of Philadelphia's consolidation with this emerging economic vision.

[Figure 3 about here]

This configuration of the spaces of humans and those of nature, and subsequent representations of the city, had clear implications for the development of urban space and its place in the public imaginary, and the consolidation map was only part of a more extensive cartographic practice that helped to produce this new economic vision. In preparation for consolidation, the city employed cartographer Joseph Fox in 1853 to produce maps that extended the city's original gridded street plan into the northern and western portions of Philadelphia County, in order to "make a good city plan out of the numerous small villages which had grown up independently" of the city (Ashmead, 1884 pp. 562). The project was subsequently expanded to include the entirety of Philadelphia County, which would become the new boundary of the consolidated city. Fox was joined early in the project by the surveyor Samuel Smedley (who later became the city surveyor for Philadelphia from 1872 to 1894). The results of that project were published in 1862 as *Smedley's Atlas of Philadelphia*, for which Figure 4 is the index map at the front of the book.

[Figure 4 about here]

The atlas itself was something of an innovation. Cadastral wall maps were the common

format for city maps from the late 1700s to the 1850s, but atlases rose in prominence in mid-century as fire insurance companies desired greater detail to keep track of insurance claims, and a single map of sufficient detail would be too large to use, carry, and store (Moak, 1976).

Smedley was quick to make use of this format for publishing his detailed maps of Philadelphia, which aided city government in managing the newly-enlarged city more effectively. Drawing inspiration from Penn's desire for a grid of regularly-spaced streets, Smedley's atlas paints a picture of an inevitable, if not yet fully realized, urban totality, casting future urban development in line with a particular vision of economic development: one more amenable to an industrial imaginary in which the means of production and the worker population were densely-settled and orderly.

The index to Smedley's Atlas (Figure 4) depicts most of the city as fully urbanized space, with the street grid spreading out into the western side of the Schuylkill river, north into the “Liberties” (districts that, prior to consolidation, were free of many of the legal constraints imposed by the Philadelphia city government), and south to the wharves, broken only by the occasional river, stream, or eventually by the city's outer limits. Yet, with the exception of a narrow strip directly adjacent to the Schuylkill River along which factory works and mills were located, its western bank was actually made up largely of unpopulated “country estates” in the possession of wealthy landowners or farmers, not regularly-spaced, paved roads, as the map seems to suggest. The same is true to the north and south of the city center, also visible in Figure 4. A map that preceded consolidation by only a few years (Figure 3) suggests the opposite: the soon-to-be-consolidated lands were relatively sparsely populated and “undeveloped” compared to the two-square-mile expanse of the old city limits. An accompanying chart (Figure 4, top left)

reflects the fact that most settlement in the region was localized around Penn's originally-planned lots. The point was later discussed in the writings of Henry Leffman, a physician and amateur historian who wrote extensively on varied subjects related to Philadelphia in the nineteenth century. Leffman wrote, in a paper that was part first-hand account, part-historical analysis, that at the time of consolidation and for decades afterward, much of the new city was still "lying fallow" (Leffman, 1907), while urbanized spaces "were separated by extensive intervals of open country often under cultivation" (ibid pp. 36).

By emphasizing one set of qualities of the city (it's recent spatial expansion, the increasing prevalence of factory work) and ignoring others (the value of woodlands adjacent to urban space, the importance of water power to some economic practices), Smedley's grid enabled a new form of city management based on the anticipation of future growth that took for granted the dominance of human beings and, more to the point, industrial economic activity (McCarthy, 1986). These efforts established a set of assumptions that remained for years to come, as can be seen in a newspaper editorial that appeared ten years later: "The rapid growth of Philadelphia makes it probable that in fifty years the basin of the Schuylkill [River] will be as a lake in the centre... of the population" (Philadelphia Public Ledger, 1867). Smedley's Atlas remained one of the most important cartographic references for surveyors, cartographers, and the city employees through the 19th and early 20th centuries (Moak, 1976). And yet, despite its importance, the city did not emerge in exactly the way Smedley's Atlas suggested that it would. While his story of inevitable expansion persisted, and helped to inform future developments in the territorialization of urban space, the atlas would provide the foundation not only for the fixing of a particular kind of urban space and practice, but that of nature as well, through its subsequent use in the mapping

of Fairmount Park.

Establishment of Fairmount Park

“One of the commonest objects of complaint in Philadelphia is that we have 'no drives.' A pretty fair average country lies around us [...] and yet for really pleasant, picturesque drives, we are worse provided than we should be. [...] It is apparent enough that twenty or thirty years hence, West Philadelphia will be a closely built part of the city, full of palatial edifices — a true West End. Persons living there will then be well pleased to have a Park near them.” (*Evening Bulletin*, 1859)

As Smedley's cartographic vision of the city proliferated, the arguments in favor of establishing a large park in Philadelphia gained momentum, driven by the perception of inevitable urban expansion into the countryside, a growing fear that the joys of rural life would be lost in the transition, and increasing anxiety about the failing quality of the hydrological and atmospheric systems on which human settlements relied. Undergirding these fears, and the natural resource and urban economic policies that they informed, were the host of practices that helped to territorialize the city and its hinterland and produced distinctly separate spaces to be managed according to different rules.

In some respects the framing of the landscape of Philadelphia as wholly urban was short-lived, at least in some places, as Philadelphians clamored for the institution of a new park in the late 1860s. Smedley was among them; after a European tour in the mid-1860s, he became convinced that the city needed a large public park, and was active in early attempts to secure land for the purpose (Ashmeade, 1884). Enjoying some success in that regard (he was instrumental in securing land known as the Lansdowne estate), the City employed Smedley to conduct the first surveys of the park (*ibid*). Simultaneously, the acquisition of the Lansdowne estate spurred activity in securing land for parks in Philadelphia so that, following the American Civil War,

little more than a decade after the consolidation of the city, the Pennsylvania State Assembly again intervened in the city's development in 1868, authorizing what at the time was the largest urban park in the world². Now, however, land that was not given over to economic expansion was an exception to the rule: Smedley and other city cartographers depicted the newly-minted Fairmount Park as a counterweight to urban development, while assumptions about the inevitability of urban growth implicit in the hypothetical street grid were carried over into a new map of the park (Figure 5). While the grid remains intact, it has been written out of the space of the park itself. Lands that were depicted as a monotonous extension of the urban core a few years previous were replaced with the faint green haze of comparatively empty park land. The map's title, "Farms and Lots Embraced Within the Limits of Fairmount Park As Appropriated for Public Use By Act of Assembly" highlights its role in defining the claims laid out by the state in the formation of the park, as well as the landscape the park was replacing.

[Figure 5 about here]

The 1868 park map had an explicitly political purpose: in depicting the boundaries of the park, it identified privately-held lands that would be appropriated by the city using eminent domain. Many copies of this map survive that bear pen marks that were probably those of key land negotiators (most notably Eli K. Price) for damages incurred through the appropriation of land (Armstrong, personal communication). Not coincidentally, Price not only played a central role in the consolidation of the city, but in the establishment of the park as well; he oversaw the purchase of park lands, aided in the drawing up of associated legal documents, and served as the chairman for the Fairmount Park Commission from its foundation in 1867 until 1884 (Special

² At more than 9,000 acres, the Fairmount Park System remains one of the largest.

Collections, 2010). While negotiations over land purchases by the city were never recorded, it is clear that the map provided a reference for negotiations that situated land parcels within the larger context of the city. The map suggested a decisive line between the city and a perceived wilderness, representing urban spaces as the domain of human beings by preserving the street grid beyond the confines of the park, while erasing any roads, factories, homes, and other built structures encompassed within the park.

Through this depiction, the map minimized the importance of more than ninety factories employing over nine thousand workers that bordered the banks of the Schuylkill River, which were eventually demolished or left to crumble once park lands were acquired. The importance of this de-emphasis was not lost on the men who owned those factories who, in response to the Assembly's decision to allow the appropriation of lands for a park in 1868, banded together in drafting a counter proposal for the land in question (Schofield, 1868). In an attempt to reverse the increasingly widespread view of the urban economy as one based on coal power, their proposal argued to the Pennsylvania State Assembly that access to water remained central to economic endeavors in the region. They also pointed out that their workers and factories represented an important market for rural producers in the region, while their own output was central to commerce in Philadelphia. In doing so, they offered up a vision of the city, ultimately unsuccessful, in which water-power was essential to future development.

Eventually, the arguments in favor of establishing a large park won out, perhaps because they were nearly always framed as efforts not to build, but to preserve and make accessible the wild landscape of the park, to which water-based industries were seen as a threat. As the editor of one area newspaper wrote, “Within ten or fifteen minutes' walk of the centre [sic] of wealth and

fashion, a river [the Schuylkill] of unobstructed flow winds with romantic grace through a landscape of glorious hills, forests of primeval trees, soft glades, and rocks rugged as any that skirt the wildest sea....There is absolute rusticity – that great tranquility which leads the soul to happy contemplation of the glories of God's creation” (The Press, 1860). Strikingly, even though these are the same lands that had been previously treated as inevitably and essentially urban, the discourse of the industrial city is here mobilized to preserve them as “wild” spaces.

A closer examination of two sections of the city bear out some finer points that are obscured in this urban/wild framing. First, despite the degree of urbanization suggested in Smedley's map (figure 4), the north-western portion of the park (figure 5) was forested land at the time that both maps were produced, free from the dense pattern of construction that characterized the city's historical core. A second example demonstrates the reverse: the area of the park in the south-east bank of the Schuylkill “was already so much occupied by buildings” that earlier park plans only included “a narrow strip, bordering the river,” so as not to upset this already-settled part of the city (Philadelphia Evening Journal, 1859). By contrast, the park boundaries established in 1868 extended well into the built-up section of this part of the city, so that a great deal of demolition was necessary in order to bring the park, as depicted, into being. Perhaps most notable was a neighborhood called Flat-Iron, one of the poorest in the city, which included "a steam grist mill, a rolling mill and foundry, with some shabby houses used as dwellings, stables, shops, and taverns" (Philadelphia Inquirer, 1864). Once the park was established legally and depicted cartographically, houses and shops in Flat Iron were demolished and its people displaced to other parts of the city in the name of preservation (Fairmount Park Commission, 2010).

Thus, while the ostensible purpose of the 1868 map was to aid in identifying property lines in the process of land appropriation by the state rather than to show what existed on the ground, it helped to reinforce and justify state-led efforts to materialize the imagined spaces of the city and the imagined spaces of nature. It reified these spaces by the cartographic filling in of city space, the emptying out of park space, and the literal bold-facing of the line between the two. The boundary between park land and the rest of the city underscored a shift that designated otherwise productive forest and farm land as space no longer suited to economic activity but appropriate for leisure use, while land located outside the park boundaries were now presumed to develop according to Smedley's and others' economic imaginations – that is, in ways that were amenable to industrial development.

At the same time, these effects were never entirely complete, nor did this framing of the city dominate it totally. I've already mentioned the factory owners who opposed the establishment of the park for business reasons. In addition, throughout the period of park establishment in Philadelphia, letter-writers complained that the park would only serve the wealthy at the expense of the working class, who the park was often said to serve, or that it would lay an unnecessary tax burden on the public. Others, after the park was established, complained about the roads that were closed in the laying out of the park, suggesting that its closing burdened the business interests in the city (Daily Pennsylvanian, 1857; Germantown Telegraph, 1860; Germantown Chronicle, 1873).

Constituting the Urban Subject

While a variety of interventions converged in the formation of the urban subject, the

formation of Fairmount Park was particularly influential in the naturalization of the spaces of work and leisure, through which members of the working class were framed as inhabitants of urban spaces as opposed to - for lack of a better word - natural ones. While most of the maps I've referenced up to this point were funded and published by the city government for use in management of the city, they also featured prominently in publications for the public, like annual reports of the Park Commission or the city councils, which were available from various local publishers. Meanwhile, the purchase of maps themselves from their publishers became increasingly common in the 1860s and 70s with improvements in lithography (Brückner, 2010). Though printing technology in the 1860s prevented the maps from being reproduced in detail in newspapers, they were written about in numerous editorials that appeared there. Thus, government maps, however narrow their initial purpose, circulated widely. Nevertheless, maps produced explicitly for public consumption do a different kind of work.

The map shown below (Figure 6) was published around 1872, just a few years after the park's establishment and was clearly meant to speak directly to Philadelphians and tourists about the virtues of the park. The text that surrounds the central image of the map tells a history of the park that serves just as well as a history of the city. Referring to Philadelphia's expanding park system as a kind of accessory to adorn the body of the growing city, it suggests that “the garments that fit the child and filled its mind, might not do for the full-grown man”. That is, a larger park was needed to outfit a growing city. Simultaneously celebrated and feared, the growing city proved to be a concern in the mind of the cartographer as well as his audience. Distaste for the emerging industrial city plays a prominent role in the story told in the margins of the map. The urban subject is invited to enjoy a “healthful and ennobling...repast” from the

“great and noisy city” and to partake in “a feast of natural beauties” in the new park.

[Figure 6 about here]

Direct references to the city are only markers pointing toward more subtle statements about the relationship between the city and the park. Among other details, the document transports its audience - figuratively and literally - to a number of notable attractions, among them the variety of historical homes and mansions, many of which were occupied even after the time of purchase of the land by the city. Other lots had until recently been working farms, as the title "Farms and Lots" of the 1868 map implies (see Figure 5). Nevertheless, these homes and farms, situated among groves of trees and hidden streams, are here presented not as viable alternatives to urban life, but as evidence of a distant, pre-industrial past, linked to various prominent figures associated with a long-gone agrarian economy. For example, it explains that "Belmont mansion [...] occupied for thirty-eight years by [Richard Peters] [...] a lifelong friend of [George] Washington [...] has more memories of the olden days associated with it [...] than any other other residence in or around Philadelphia." "Sweet Briar Mansion," it continues, was "formerly home of 'Farmer Breck'" who was "the link connecting the Revolutionary period with the present." Likewise, practices associated with the park that might otherwise have offered alternatives to factory work are instead presented as collective reminiscences of a world that has all but disappeared. The bottom panel of the map, for example, describes the annual Nutting Day event, where an estimated sixty thousand people, roughly one-sixth of the city's population, gathered together on a single day in Autumn to reap the harvest of the park's chestnut, walnut, and hazelnut trees, a generations-old practice whose popularity clearly had not waned as the city grew, but now was being framed as a quaint ritual primarily for the enjoyment of children

(Fairmount Park Commission, 1870). Together, these elements depict the unfolding of a pre-ordained urban history, the development of modern economies through stages of succession. The city is no longer a child, but a full grown man, where the childish practices common to an earlier period have been made obsolete by emerging modes of (industrial) production. The map led park goers to inhabit the park not as a form of resistance to urban growth, but as a way to endure it through a remembrance of the past and as a means of repairing the injuries caused by the industrial city to their bodies and minds. In carrying this map and its ideas into the park with them, members of the urban public came to understand their experiences inside and outside of the park as part of the story of modern urban development.

The strength of this framing is evident in a letter written by a factory worker to a prominent Philadelphia newspaper, who suggested that discussions about a new park presented a perfect opportunity to revisit “Sunday travel” debates, which referred to a law that prevented travel by carriage on that day, during a time when workers were still agitating for a mandated 60-hour work week:

“There can be no more appropriate time to resume agitation of this issue than the present. The workingmen are justified in saying 'Before you ask for our money to construct your Park, satisfy us that you do not intend to exclude us from the enjoyment of its benefits. We are shut up in our shops six days of the week.... We cannot afford to lose a day, or part of a day, out of the six devoted to toil. Sunday is the only day we have to be with our families, and the only opportunity we will have to take our wives and children to the Park. Some of us live miles away from the banks of the Schuylkill, and if compelled to walk thither, would be too tired to appreciate the attractions of the scenery, or to walk over the spacious grounds. Give us the cheap conveyance to the Park on Sunday, then, or in making the improvements, you will be robbing the poor for the pleasure of the rich.’” (*Philadelphia Evening Journal*, 1860)

The division between the space of the city and the space of the park was now clear: the former had become the space of work and commerce, while the latter had become the space of leisure and relaxation.

Conclusion

In this paper, I have argued that the performance of mapping endeavors to produce urban space as such can help to illuminate the formation of urban economies and urban environments that otherwise remain obscure. In the case presented here, a series of interventions contributed to the production of a foundation on which future urban development could be enacted and pursued. Each of the interventions discussed here – consolidation of the disparate governments surrounding Philadelphia’s colonial core, the establishment of Fairmount Park through the legal apparatus of the state assembly, the calling into being of the urban subject through the park – was made possible through the contributions of actors associated with the production and use of maps. Naturalizing the relationship between the city and the park made possible the extension of urban economic relations into more and more distant lands, reframing and ultimately helping to transform much of the landscape of Philadelphia from an agrarian one, in which a diverse set of economic practices thrived, to an urban one, in which coal-dependent, factory-oriented industrial practices were privileged above all others.

This story of urbanization focuses on the ways in which the deployment of a discourse of capitalist urban development was activated in new ways through mapping practices, recasting the variety of subsistence and agrarian economic activities that were commonplace in cities well into the 19th century as obsolete and unworkable. Highlighting the work that must be done to

produce the city as capitalist (or otherwise) reasserts the argument about the political effectivity of maps found in the critical cartography literature more broadly by revealing the mapping of urban space as a key site for intervention in which new political and social arrangements may be enacted, in particular with regard to urban natures and urban economies. It is through the tracing of cartographic performances - what Kitchen and Dodge have called “mappings” (2007), that a “politics of possibility” emerges. It is in becoming aware of the means through which economic and environmental spaces are brought into being, by tracing what Söderström called the “internal” and “external” efficacy of maps through their creation and use, that we can begin contemplating such alternatives.

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References

- Adams, C., Bartelt, D, Elesh, D., Goldstein, I., Kleniewski, N., and Yancey, W. (1991) *Philadelphia: Neighborhoods, Division, and Conflict in a Postindustrial City*. Philadelphia: Temple University Press.
- Amin, A. and Thrift, N. (2002) *Cities: Reimagining the Urban*. Malden, MA: Polity.
- Ashmead, H. G. (1884) *History of Delaware County, Pennsylvania*. Philadelphia: L. H. Everts and Co.
- Bennett, J. (2010) *Vibrant Matter: a political ecology of things*. Durham, NC: Duke University Press.
- Blaikie, P., & Brookfield, H. (1987). *Land Degradation and Society*. London: Methuen.
- Brenner, N. (2009). 'What is critical urban theory?' *City*, 13(2-3), pp. 198-207.
- Brückner, M. (2010) 'The Lithographed Map in Philadelphia: Innovation, Imitation, and Antebellum Consumer Culture', paper presented at *Representations of Economy: Lithography in Philadelphia, 1820-1860* (Program in Early American Economy and Society, Philadelphia), October 15, 2010.
- Corcoran, I. (1992) *Thomas Holme 1624-1695: Surveyor General of Pennsylvania*. Philadelphia: The American Philosophical Society.
- Cowell, R. & Thomas, H. (2002). 'Managing nature and narratives of dispossession: Reclaiming territory in Cardiff Bay', *Urban Studies* 39:1241-1260.
- Craib, R. B. (2004) *Cartographic Mexico: A History of State Fixations and Fugitive Landscapes*. Durham, NC: Duke University Press.
- Crampton, J. W. (2009). 'Cartography: performative, participatory, political', *Progress in Human*

- Geography 33(6), pp. 840-848.
- Daily Pennsylvanian* (1857) 'To the Taxpayers of Philadelphia', 10 Oct
- Daily Reporter* (1854) No Title, 16 Nov
- Evening Bulletin* (1859) No Title, 14 Sept
- Fairmount Park Commission (1870) *2nd Annual Report of the Commissioners of Fairmount Park*. Philadelphia: King and Baird
- Fairmount Park Commission (2010) 'Transformation of the Landscape', website accessed 4-27-11: <http://www.fairmountpark.org/HistoryPart3.asp>
- Farias, I. (2011) 'The politics of urban assemblages', *City: analysis of urban trends, culture, theory, policy, action*. 15:3, pp. 365-374
- Gabriel, N. (2012). *The Work That Parks Do: Urban Environmental Management and Its Alternatives*. Ph. D. Dissertation. Rutgers University.
- Gandy, M. (2002). *Concrete and Clay: Reworking Nature in New York City*. MIT Press
- Gandy, M. (2012). 'Queer ecology: nature, sexuality, and heterotopic alliances', *Environment and Planning D: Society and Space*. 30, pp. 727-747.
- Geffen, E. M. (1982) 'Industrial Development and Social Crisis: 1841-1854', in Weigley, R. E. (ed) *Philadelphia: A 300 Year History*. New York: W. W. Norton and Company
- Germantown Chronicle* (1873) 'Belmont Avenue', 4 Dec
- Germantown Telegraph* (1860) 'The Extension of Fairmount Park', 11 Apr
- Gibson-Graham, J. K. (1996) *The End of Capitalist (As We Knew It)*. Wiley
- Gibson-Graham, J. K. (2010) 'A feminist project of belonging for the Anthropocene', *Gender, Place and Culture - A Journal of Feminist Geography*, 18(1), pp. 1-21.

- Gibson-Graham, J.K. and G. Roelvink. 2010. 'An economic ethics for the Anthropocene', *Antipode* 41(1), pp. 320-346.
- Harvey, D. (1982) *The Limits to Capital*. Oxford: Basil Blackwell.
- Harvey, D. (1997) 'Contested Cities: Social Process and Spatial Form,' in Jewson, N. and MacGregor, S. (eds) *Transforming Cities: New Spatial Divisions and Social Transformation*. New York: Routledge.
- Harley, J. B. (2001) *The New Nature of Maps: Essays in the History of Cartography*. Baltimore, MA: Johns Hopkins University Press.
- Heynen, N. C. (2003). 'The Scalar Production of Injustice within the Urban Forest', *Antipode*.
- Heynen, N., Kaika, M. and Swyngedouw, E (2006). 'Urban political ecology: Politicizing the production of urban natures', in Heynen, N., Kaika, M., and Swyngedouw E. (eds) *In the Nature of Cities: Urban Political Ecology and the Politics of Urban Metabolism*. New York: Routledge.
- Kaika, M. (2005). *City of Flows*. New York: Routledge.
- Kaika, M. and Swyngedouw, E. (2012) 'Cities, Natures and the Political Imaginary', *Architectural Design* 82(4), pp.22-27.
- Kitchin, R., & Dodge, M. (2007) 'Rethinking maps', *Progress in Human Geography*, 31(3), pp. 331-344.
- Latour, B. (1986) 'Visualization and Cognition: Drawing Things Together', in H. Kuklick, and E. Long (eds) *Knowledge and Society. Studies in the Sociology of Culture Past and Present Vol. 6*, 1-40.
- Latour, B. (1998) 'The politics of explanation: an alternative'. In Woolgar, S. (ed) *Knowledge*

- and Reflexivity*. London: Sage.
- Latour, B. (2005) *Reassembling the Social*. New York: Oxford University Press.
- Lefebvre, H. (2003) *The Urban Revolution*. Minneapolis: University of Minnesota Press.
- Leffman (1907) 'The Consolidation of Philadelphia', a paper at the meeting of The City History Society, 9 January, 1907.
- MacKenzie, D., Muniesa, F., and Siu, L. (2007) *Do Economists Make Markets? On the Performativity of Economics*. Princeton: Princeton University Press.
- Marcuse, P. (1987) 'The Grid as City Plan: New York City and Laissez-Faire Planning in the Nineteenth Century', *Planning Perspectives* 2 (3), pp. 287-310.
- McCarthy, M. (1986) 'The Philadelphia Consolidation of 1854: A Reappraisal', *Philadelphia Magazine of History and Biography* 110(4), pp. 531-548
- Moak, J. M. (1976) *Philadelphia Mapmakers*. Philadelphia: Shackamaxon Society Inc and Jefferson M. Moak.
- North American and United States Gazette* (1853a) "Consolidation," 18 July
- North American and United States Gazette* (1853b) "Consolidation," 23 July
- Philadelphia Evening Journal* (1860) "No Title," 8 Apr
- Philadelphia Inquirer* (1864) "Fairmount Park," 26 Jan
- Philadelphia Public Ledger* (1867) No Title, 18 June
- Pickles, J. (2004) *A History of Spaces: Cartographic Reason, Mapping, and the Geo-Coded World*. New York: Routledge.
- Pickles, J. (2006) 'On the Social Lives of Maps and the Politics of Diagrams: A story of power, seduction, and disappearance', *Transactions of the Institute of British Geographers* 38(3),

pp. 347-350

The Press (1860) "City Bulletin," 27 Feb

Price, E. K. (1873) *The history of the consolidation of the city of Philadelphia*. Philadelphia: J. B. Lippincott and Co.

Richardson, E. P. (1982) 'The Athens of American: 1800-1825', in Weigley, R. E. (ed) *Philadelphia: A 300 Year History*. New York: W. W. Norton and Company

Rose-Redwood, R. S. (2008). 'Genealogies of the Grid: REvisiting Stanislawski's Search for the origin of the Grid-Pattern Town', *Geographical Review*, 98(1).

Rush, R. (1853) Letter to Eli K. Price, quoted in Price, E. K. (1873), *The History of the Consolidation of the City of Philadelphia*. Philadelphia: J. B. Lippincott and Co.

Schofield, S., Wallace, D., Campbell, A., Simpson, W., Dobson, J., White, D., Kershaw, R., Lees, S. (1868) *Memorial to the Senate and House of Representatives of Pennsylvania*. Philadelphia: J. B. Chandler, Printer.

Scott, J. C. (1998) *Seeing Like a State*. New Haven: Yale University Press.

Söderström, O. (1996) 'Paper Cities: Visual Thinking in Urban Planning', *Cultural Geographies* 3(3).

Special Collections (2010) Eli K. Price Papers: 1822-1886. University of Delaware. Accessible online at: <http://www.lib.udel.edu/ud/spec/findaids/price.htm>

Swyngedouw, E. (2009). 'The Antinomies of the Postpolitical City: In Search of a Democratic Politics of Environmental Production', *International Journal of Urban and Regional Research* 33(3).

Swyngedouw, E., & Heynen, N. C. (2003). 'Urban Political Ecology, Justice and the Politics of

Scale', *Antipode*.

Thrift, N. (2006) 'David Harvey: A Rock in a Hard Place', In Castree, N. and Gregory, D. (eds)

David Harvey: A Critical Reader, Malden, MA: Blackwell.

Wainwright, N. B. (1982) 'The Age of Nicholas Biddle: 1825-1841', in Weigley, R. E. (ed)

Philadelphia: A 300 Year History. New York: W. W. Norton and Company

Wachsmuth, D., Madden, D., and Brenner, N. (2011) 'Between abstraction and complexity',

City: analysis of urban trends, culture, theory, policy, action, 15:6, pp. 740-750