Architectural Work :: Immaterial Labor
Peggy Deamer

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Introduction

Architecture's eradication of a discourse of design labor's relationship to construction labor and with it any discourse of architecture as a type of labor itself is not accidental. It works in capitalism's interest that labor is eradicated from our consciousness: no more organized complaining about how profit is (not) distributed fairly amongst owners, managers, and actual producers! And it works that architects, as the originators of the bulk of the built environment and all the power that supposedly comes with it, have forgotten that they labor at all, convinced, as they are that "design" stands outside the dirty world of both labor and the political economy.

The loss of this awareness, this chapter argues, is not accidental but is the consequence of historical developments in capitalism itself, developments that can be described as moving from a concern for production to a concern for consumption and beyond. And clearly, leaving behind issues of production leaves behind that of labor as well.

To examine this problem of architecture's loss of labor discourse, this chapter is divided into two parts. The first is a historical overview of how capitalism left behind production as a concern and the affect this has on how architecture in different economic era's understood itself. Behind this romp through capitalist history is Ed Ford's observation in *The Details of Modern Architecture* regarding 19th versus 20th century workers:

> Insofar as twentieth-century architects have concerned themselves with the social consequences of their work, they have focused on the way in which buildings affect the behavior of their occupants. Insofar as 19th century architects concerned themselves with the social consequence of their work, they focused on the way in which buildings (and particularly their ornaments) affect those who build them. There is perhaps no greater difference between the architects of the 19th century and those of the 20th than that each group was so indifferent to the social concerns of the other.[1]

This is a profound observation, which can be linked to the idea, again, that this transformation of social interest in architecture only mirrors that of the economy in general, with the social concern for the builder/worker flourishing in a period where capitalism struggled with issues of production, management and labor; and the concern for the inhabitant/consumer is linked to capitalism's preoccupation with consumption.

If this generally agreed upon description of capitalism's evolving modus operandi is right, it is also problematic for the reason described above: leaving behind a concern for labor and its fundamental place in a humanist reading of political economy. Part two then explores where, today, architecture's understanding of itself can further expand in a way that takes advantage of capitalism's disguised return via the "knowledge economy" (it is argued) to issues of production. This part will focus on how the introduction of new knowledge technologies allows architecture to reposition and empower itself.

PART I: Architectural Work in History

The crisis in identity for the builders/makers in the 19th century change from artisan to factory based constructor is exemplified, as is well known, by John Ruskin – with his plea for the stone masons' freedom to create and carve without machine-induced tropes of repetition and standardization; by William Morris – with his *Morris, Marshall and Faulkner & Co.* workshop, employing artisans whose objects kept alive creativity while deploying mechanization; and by Eugène Viollet-le-Duc – with his speculations about what artisans/builders of the past would do with the new materials brought on by industrialization. Here, the concern for the production and the producers was paramount, as Ford makes clear, even as the significance of Henry Cole's Great Exhibition of 1851 housed in Paxton's Crystal Palace – which Ruskin condemned purely on the level of its mechanical production; it was building, not architecture – signalled the role that consumption would play in shaping design's mission.

The fact that capitalism was handing architecture industry a more complicated set of circumstances than these 19th century theorists initially understood is demonstrated by the German *Werkbund's* 1907-34 project, where design workers' satisfaction was increasingly aligned with – indeed, elided with – that of the consumer. Happy work was equated with quality work was equated with quality products was equated with a sophisticated consumer – which *was* the real subject being produced. On the one hand, this wasn't just capitalism in general; it was a specifically German response to nation building. Germany's rise to being the 3rd most powerful economy led it to challenge England not just economically, but culturally. On the other hand, it was also capitalism's realization within capitalism in general that the factory workers *were* the consumers; that the workers need to be able to afford the goods they produce, balancing supply and demand.

Peter Behren's AEG factory, then, is less the icon of the *Werkbund* (although it does demonstrate new aesthetic concern for the place of work) than is his design work on AEG's logos and clocks. More iconic still are the display windows of the new department stores, windows that

had intense design focus and were the main subject of Germany's effort to create the sophisticated consumer. At this time though, the brand name product did not provide a space for the recognition of labor. Unlike the celebration of the industrial maker envisioned by Morris and marketed by his *Morris, Marshall, Faulkner & Co*, "the actual manufacturer" in Germany, suggests Frederic J. Schwartz in his excellent analysis of the *Werkbund*, "neither named nor recognizable by obvious visible characteristics of the object, disappeared from view in the market."[2]

After the *Werkbund*, architectural concern for the maker, as Edward Ford has indicated, virtually disappears – with notable exceptions. However, the various ways in which industrialized construction was sublimated is its own lesson.

Between WWI and before WWII, Taylorism and Fordism produced goods at an incredibly expanded scale, mobilizing an ever larger and well managed work force. The love that architects showed for industrialization at this time was enormous: Le Corbusier, Walter Gropius, Mies van der Rohe – the major figures of 1920s modernism, as we all know – saw their work as extensions of technology and industrialization. But for the most part, this love rested on an objects' ability to symbolize industrialization, which in turn was of interest for symbolizing the new modern era. The interest, in other words, was not to adjust the design process according to factory-based labor techniques; rather, it was adjusted to shape the new, modern citizen/inhabitant – clean, objective, and unsentimental.

The work of the architect, as indicated, was the production of the subject of this order, and the means for this was a modern aesthetic. Le Corbusier, with his "Neue Sachlicheit" was ultimately interested in how the "nakedness" of pure volumes embodied the "naked facts" that the machine age had wrested from an over determined and sentimental past. He wrote:

> Our eyes are made to see forms in light; light and shade reveal forms and the images of these are distinct and tangible within us without ambiguity. It is for this reason that they are beautiful forms, the most beautiful forms. Everyone is agreed to that, the child, the savage, and the metaphysician.[3]

Likewise, Mies's interest in industry collapses around the celebration of its new materials, not its trades or workers. He too is interested in the aesthetic effect on the new citizen. After much praise and focus on the significance of industrialization for modern architecture and the new opportunities it offers, he writes: "I discovered by working with actual glass models that the important thing is the play of reflections, and not the effect of light and shadow as in ordinary buildings."[4] While this position on glass's role in the skyscraper has been linked to a "critical" position on capitalist culture,[5] labor is nowhere to be seen.

In Modernism, aesthetic effect is seen as a form of epistemology and that epistemology supports consumption, now not just of the clocks and shoes of the *Werkbund*, but of architecture

itself. The exception, of course, is Gropius. He alone linked architecture's goal to production and explored technology for its labor benefit. The uniqueness of this position in comparison to other modernists is actually startling, given their shared fascination of industrialization. It's most clearly expressed in his fascinating essay on the housing industry. According to Gropius,

> Modern technique might already be ripe for [prefabrication], but the building trade today is still using old methods of handcrafts in which the machine plays only a subordinate role. A radical re-formation of the entire building trade along industrial lines is therefore a must for a modern solution of this important problem. It must be simultaneously approached from the three angles of economy, technology and form; all three are interdependent (...) These are beyond the competence of the individual and can be solved only by a concerted effort in collaboration with numerous experts (…) The better we organize physical labor, the more the human spirit will be emancipated (…).[6]

After WWII, until the early '70s, as Fordism morphed into corporatism and the nature of work went from dirty and unpleasant to clean, white and appealing – and as factory work itself was financially rewarded and union supported, daily labor – as the definition of work – was replaced by "careers" and the factory was replaced by the office. Architecture was assigned, again, with the task of producing this user/consumer – in this case no longer by essential epistemological object-forms, but the construction of (corporate) American life-style.

Corporatism – an American phenomenon particular to its emergence as the dominant world power after WWII – took on the task of enacting America's cultural and not just military and economic hegemony. Defined in the shadow of the Soviet Union, whose socialism was intrinsically pro-worker, America's new work had to prove its equally humane, benefit-laden bona fides.[7] While this can be seen as sympathetic to the worker, invested as it is in a new form of managed production (especially with the Keynesian support of full-employment), the American corporation's definition of social responsibility was *really* to guarantee that we all have access to consumer goods.

> Corporations have a responsibility, first of all, to make available to the public (…) quality goods and services at fair prices, thereby earning a profit that attracts investment to continue and enhance the enterprise, provide jobs, and build the economy.[8]

As Susan Buck-Morss has pointed out, similarities of consumer styles came to be viewed as synonymous with social equality; democracy was freedom of consumer choice and to suggest otherwise was un-American.[9] Architecture in America was divided into the design of the corporate facilities that shaped workers' work and the design of the house that shaped their leisure time.

Both showed the need for style and elegance, but it was the house that could do the real work of indoctrination. As John Entenza stated in the announcement of the Case Study House Program:

> We of course assume that the shape and form of post war living is of primary importance to a great many Americans, and that (...) the house[s] (...) will be conceived within the spirit of our times (...).[10]

The returning soldiers, more than needing work, had to settle in, make house, and consume. And the Case Study Houses were architecture's entré into that enterprise, bringing affordability, mass-produced materials, and the caché of European-imported sophistication. These houses were ambitious about technology – the wartime industry had proved successful and now needed a new market, but they were intended to develop the new American buyer. The goal was surprisingly similar to that of the *Werkbund*: to shape the modern citizen in a transforming nation-state. America, like Germany in the early 20s, must be modern. According to Entenza,

> Perhaps we will cling longest to the symbol of the 'house' as we have known it, or perhaps we will realize that in accommodating ourselves to a new world the most important step in avoiding retrogression into the old, is a willingness to understand and accept contemporary ideas in the creation of environment that is responsible for shaping the largest part of our (…) thinking.[11]

Things change radically with neoliberalism. The end of corporatism in the early 70s and the emergence of neoliberalism marked the transformation in capitalism from a production/consumption model to a profit model, from productive capital to financial capital. The target is no longer a generalized, average citizen needing a modern outlook. It is consumption let lose from need. Entertainment and novelty are the paradigm and the wealthy are its audience.

Nixon in 1971, delinking the dollar from gold, essentially ended the Bretton Wood accord that had been set up after WWII to stabilize world economies. In doing so, he set the global economies free to float. The deregulation of the Reagan and Thatcher era, as well as "free trade" became a form of corporate protectionism as regulations were seen as a "burden" on large industries. Wealthy investors – financial capitalists – are free to be irresponsible and invent new forms of dominance. The 1% ensures that wages are suppressed as they use capitalism to support their style of consumption; the downward equalization of wages and the rate of unemployment come to be accepted as "natural". The only threat is the emergence of other heretofore players in the world economy. The newly rich OPEC countries, after the '73 oil embargo, control the commodity of choice, oil. To regain dominance, the multinational corporations must provide innovation commodities and lead in the world of design so that affluent consumers can distinguish themselves from their peers on the basis of purchasing consumer goods that are made only in small quantities and with high levels of "design intensity."

In architecture, formal novelty in the 70s becomes an end in itself, set free from the need to address the user/viewer/consumer let alone the producer. Novelty is demanded by the form itself; it is required by its own id. As Mark Wigley wrote in his contribution to the *Deconstructivist Architecture* exhibition catalogue:

> The deconstructive architect puts the pure forms of the architectural tradition on the couch and identifies the symptoms of a repressed impurity. The impurity is drawn to the surface by a combination of gentler coaxing and violent torture: the form is interrogated.[12]

Jaime Stapleton further discusses this importance of novelty in neoliberalism, and its relation to the rise of the knowledge economy and knowledge work. He writes:

> At the end of the 20th century and the beginning of the 21st, this dynamic of novelty for novelty's sake accelerates and changes its name. In losing manufacturing to overseas factories when the voluntary liberalization of Indian and Chinese economies in the 90s added 3 billion workers to the global labor supply**,** America discovered a new product that it *could* control – innovation. The knowledge economy, indeed, can be seen as a conscious plea for US companies to *become* knowledge based firms, not a description of an (inevitable) fact.[13]

Knowledge work looks different than the financial work of banking. It is produced individually or in small groups, in labs or garages (or wealthy universities) and is shaped by expanded topologies of creative participation offered by social networks. But, the knowledge firms, for their rhetoric of unfettered locale, are bound to places with stable social infrastructures, a well-educated (if expensive) work force, and secure intellectual property decrees. The latter in particular, with intellectual property being "the oil of the 21st century,"[14] is highly controlled, with the US at the vanguard of shaping self-serving regulations. As a form of market intervention that encourages investment in new products by temporarily holding off price competition, it ensures that those at the head of the table (the US) stay there.

Various technologies have been assigned a role in producing the "paradigm shift" that the knowledge economy exemplifies: air travel, just-in-time manufacturing, global production chains, labor outsourcing, computer technologies, new media, internet, mobile phones, etc. Enter architectural parameticism that now moves beyond 70's entertainment to aesthetic (and spatial) hegemony, espousing and exploiting the same technological innovation in the name of zeitgeist determinism.

> Parametricism makes urbanism and urban order compatible with radically liberal market processes (...) [I]t makes no sense for architects to attack the neo-liberal turn and call for state intervention to rescue urbanism. The unleashing of market forces cannot be reversed (...) The task of architectural discourse is to reinvent and re-adapt architecture and urbanism under progressing societal (socio-economic, technological and political)

conditions, rather than demanding the reversal of socio-economic and political developments.[15]

PART II: Architectural Work as Immaterial Labor

> Creation, whether technological, socio-economic, political, domestic, scientific, or artistic, represents a kind of labour, and like labour, is composed of organizational (or disorganizational) endeavours. It is exactly the same as labour, whose product is not the repetition of a ready-made stereo-type, but is something 'new'.[16] A. Bogdonov (1920)

We can be cynical about the hype that comes with the knowledge economy, but it brings with it – ironically or fatefully, depending on your point of view – a return to issues of production. In "knowledge work" one "owns the means of production", or so it goes, and with interactive devices "produces" information as readily as receiving it. Hence, consumption can no longer be distinguished from production. All of a sudden, creativity and with it how it is produced again matters to capitalism. But who is this knowledge worker and what makes her so successful?

Are there ways to take advantage of this turn, to occupy it without resorting to the power structures that monetize it directly in the form of intellectual property or indirectly in taking advantage of our "free" creative time? If Part I describes how architecture, from the Industrial Revolution to today, has been led ideologically to displace a social concern for the producer as it followed capitalism's march toward consumption, Part II interrogates the possibility of reversing this trend to pursue a connection between architecture and construction and between architecture and labor. My position is that we can only have a more fulfilling, less passive, and more disruptive role in capitalism if we don't think of construction and labor as conceptual "others". That's why I am interested in immaterial labor.

As immaterial labor is often linked to knowledge work it is worth revisiting that relationship to see where they do intersect and part. While analysing the differences between these two concepts, it is unproductive to see them as opposites or to associate the benefits of immaterial labor with the vindication of capitalism. The creative, experimental, and self-valorising aspects of immaterial labor and the knowledge economy is born in the context of capitalist curiosity. The "gift economy" – in which immaterial laborers, sharing information freely with no monetary reward – can also sit within the framework of the knowledge economy.[20]

This is evident in the close links that can be drawn between immaterial labor and the thought of Peter Drucker, the guru of American corporatism, who was profoundly anti-communist but recognized that its allure (as suggested before) needed to be matched by capitalism's own progressive attitude toward the worker. He also envisioned a transformation from capitalism to "post-capitalism",[21] and in this, veered toward a socialism that he barely registered. One can

broadly sketch his and immaterial labor's shared beliefs. There is concurrence on what work looks like: collaborative and openly shared; with flexible hours and locations; the autonomy and self-realization of individuals; youth empowerment; entrepreneurialism; media savvy, in which reception becomes production (twitter, etc). And there is accord on how firms/organizers of work should behave: organize for change and promote planned abandonment; respect the worker as the most intelligent and flexible part of the enterprise; stop producing unnecessary things; recognize that the real business of business it not finding how to do things right, but finding the right things to do. And there is alignment on who is a knowledge/immaterial worker: researchers, designers, advertisers, consultants, artists, media specialists, IT programmers, gamers, etc. And there is, to a large extent, agreement on what it implies for capitalism: that is, in the knowledge economy and the gift economy, the traditional link between goods and services breaks down and traditional economic theory becomes obsolete – since it is based on factors of production (land, labor, and capital) that are restraints rather than drivers – for both. The distinction, then, to be drawn between knowledge work and immaterial labor is not between capitalism and socialism, but between that which capitalism chews on easily and that which it can't easily digest.

This model of work is clearly appealing to architecture as it emerges from a profession based on Taylorist division of labor and corporatist hierarchies to one embracing open source access, social media, rule breaking, and individual initiative. But to guide this work away from neoliberalism's grasp toward the original, more radical aims of immaterial labor requires extracting strategic distinctions.

For instance, in foregrounding the "radical autonomy" of the worker from the system in which she is placed. As *Autonomia* claimed, the worker exists as a person prior to her insertion into a labor context. The architectural worker should therefore play in the system, but use it to her own ends. As Maurizio Lazzarato, a principal theorist of immaterial labor, says:

> Industry does not form or create this new labor power, but simply takes it on board and adapts it. Industry's control over this new labor power presupposes the independent organization and "free entrepreneurial activity" of the labor power (…) Today, with the new data available, we find the microeconomy in revolt against the macroeconomy, and the classical model is corroded by a new and irreducible anthropological reality.[22]

Another is the foregrounding of "labor". As the digital theorist Tiziana Terranova suggests, the digital commodities that come out of the immaterial labor, "do not so much disappear as become more transparent, showing throughout their reliance on the labor that produces and sustains them."[23] This labor is broad in its definition – it "involves a series of activities that are not normally recognized as 'work' (…) (those) involved in defining and fixing cultural and artistic standards, fashions, tastes, consumer norms, and more strategically, public

opinion"[24] – and not necessarily paid. This labor, after all, is not to be equated with employment and not all unpaid work is exploited. The pleasure in shared knowledge relates to its affective, caring dimension.

At the same time, in being named "labor," it also introduces an identification based not on status or economic reward – which lingers in the knowledge worker (white, educated, Google-bound) – but rather on labouring itself. If there is class identification here, it is one of worker solidarity.

And finally, immaterial labor celebrates "collective intelligence" not as a means to an end but as an end in itself. The aim is the pleasure that the "collective intelligence" offers the individual, not the organization. As Pierre Levy, the cultural theorist and media scholar, writes:

> (Collective intelligence) is a form of universally distributed intelligence, constantly enhanced, coordinated in real time, and resulting in the effective mobilization of skills (…) The basis and goal of collective intelligence is the mutual recognition and enrichment of individuals rather than the cult of fetishized or hypostatized communities.[25]

Hard to organize and impossible to monetize, the rhizomatic nature of collective intelligence thwarts capitalism's structural needs.

Enter knowledge parametricism, otherwise known as BIM, which foregrounds the information that lies behind design, accesses intelligence, not just form, and allows/demands collaboration. Within professional structures, it breaks down the distinctions and hierarchies that have haunted the profession, it broadens the meaning of design to include the process, and it makes us smart about issues that matter to the client (money and schedule). Across the professions, it highlights the equality between and co-dependence of the various AEC (Architecture, Engineering and Construction) disciplines, it links immaterial design thought to material production, and it empowers the constructors to recognize themselves as creators.

This is BIM's capability, but that is not, for the most part, how it is deployed or admired in the industry, where it is mostly associated with the efficiencies it offers in procurement and clash detection. These efficiencies, dedicated to risk-management, are not unimportant: they get the owners attention in the area of greatest concern (money) and thus are an indication of BIM's value and power. But they don't change the DNA of the process, which not only keeps intact the division between designers and constructors but lends it an unproductive cultural overlay: the cool avant-garde of the formal parametricisist vs. the geeky construction managers. Nor do they allow the economic advantages associated with these efficiencies to be accrued by the architects; it is the owner alone who wins. (Whether this is the fault of capitalist ideology or BIM's own mythology is an open question.)

Knowledge parametricism should instead instigate a reconceptualization of architectural practice altogether, a recalibration along its immaterial labor potential. We can and need to

consider the de-professionalization of architecture: in sharing AEC knowledge, designers and constructors operate as a team, one that is disrupted only by the “professional status" given to architects alone. In one fell swoop, we do away with all the hubris that supports our effeteness, and with that, our irrelevance. We can and need to reconsider how and what we produce. We no longer deliver objects. Hence, object making has to disappear as the goal of architectural labor. Rather, our labor produces knowledge – social, ecological, urbanistic, visual, performative, cultural, formal, and historical – that ensures the ongoing viability of the built environment. If we saw the delivery of knowledge (as opposed to the delivery of an object) as our area of expertise, certain consequences would follow: we would no longer be doing piece-work; we would think about employees differently, no longer staffing for a particular (object-defined) job, but pursuing and nurturing the best and the brightest; and we might loose the (white male) star architect so associated with avant-garde object making. We can and need to embrace risk, not deflect it, risk that is of the unknown paths to power and redefined authorship; the risk of having our own money and prestige at stake in a project. Eventually, it means embracing the risk that comes with access to power and the siren song of money.

Conclusion

The immaterial labor/material labor distinction isn’t merely a relabeling of the existing one between designer and constructor; rather, it clearly identifies the fact that there is immaterial labor (knowledge work) in all forms of production once we leave behind the manufacturing model of work. The contractors and fabricators, engineers and landscapers, all think and they all design just as architects do physical work to support their mental explorations. The validity of immaterial labor is less its contrast to material labor than it is the labelling of design as a type of work, indeed one that is linked to affective labor and care work. As this chapter has insisted, the dichotomy of designer versus worker, which immaterial label is meant to overcome, is not only destructive, but also works in capitalism’s favour. If we cannot identify as workers, we fail to politically position ourselves to combat capitalism’s neoliberal turn.

Responding to the call of immaterial labor will not bring on the revolution, but it will direct capitalism into more responsible enterprises, build a “commons”, and stifle the divisions, rivalries, and competitions central to neoliberalism. Disrupting the mechanisms of capitalism is necessary even if each small victory eventually yields to co-option. We are in a position to not beat capitalism, but to keep it guessing, and to make it uncomfortable. We architectural workers only need to keep throwing up alternative forms of economic and social performance.

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[1] Edward R. Ford, *The Details of Modern Architecture, vol 1* (Cambridge, MA: The MIT Press, 1990), 9.

[2] Frederic J. Schwartz, *The Werkbund: Design Theory and Mass Culture before the First World War*, (New Haven: Yale University Press, 1996), p. 128.
[3] Le Corbusier, *Vers une architecture* [Toward an Architecture] (1923), p. 29.
[4] As quoted in Reyner Banham, *Theory and Design in the First Machine Age*, (New York: Praeger Publishers, 1960), p. 268.
[5] See K Michael Hays, *Modernism and the Posthumanist Subject,* (Cambridge, MA: The MIT Press, 1992).
[6] See "Walter Gropius' 'Housing Industry,' (1924)", https://modernistarchitecture.wordpress.com/2010/10/28/walter-gropius%E2%80%99-%E2%80%9Chousing-industry%E2%80%9D-1924/, accessed September 4, 2014.
[7] See Jodi Dean, *The Communist Horizon* (London: Verso, 2012) on the US and Russia each having the "other" by which to define itself..
[8] Quoted in Ralph Gomory and Richard Sylla, "The American Corporation," in *Daedalus* (2) Spring 2013, from *The Business Roundtable*, "Statement on Corporate Responsibility," October 1981, p. 12 https://www.amacad.org/publications/daedalus/spring2013/13_spring_daedalus_GomorySylla.pdf accessed Sept 10, 2014.
[9] Susan Buck-Morss, *Dreamworld and Catastrophe: The Passing of Mass Utopia in East and West* (Cambridge, MA: The MIT Press, 2000).
[10] John Entenza, "Case Studies House Announcement, January1945". See I, http://www.artsandarchitecturecollection.com/architecture/case.study.houses/text.html, accessed October 1, 2014
[11] Ibid.
[12] Mark Wigley, "Deconstructivist Architecture," in *Deconstructivist Architecture*, Philip Johnson and Mark Wigley, eds., Museum of Modern Art Catalogue, (Boston: Little, Brown and Company, 1988), p. 11.
[13] See Jaime Stapleton's "The Knowledge Economy and Globalisation: Internationalising Intellectual Property and the Fate of Critical Art Practice," http://www.jaimestapleton.net/aipkefive.pdf, accessed September 21, 2014. In addition, I have been aided in this discussion of neoliberalism and knowledge work by David Hesmondhalgh's "Neoliberalism, Imperialism, and the Media," https://www.academia.edu/1534973/Neoliberalism_Imperialism_and_the_Media, accessed August 2, 2014.
[14] Mark Getty, "Blood and Oil," *The Economist* (March 4, 2000), 68. http://www.economist.com/node/288515, accessed September 4, 2014.
[15] Patrik Schumacher, *Free Market Urbanism – Urbanism beyond Planning*, London 2012, "Abstract", Published in: *Masterplanning the Adaptive City – Computational Urbanism in the Twenty-First Century*, edited by Tom Verebes, Routledge, New York 2013; see http://www.patrikschumacher.com/Texts/Free%20Market%20Urbanism%20-%20Urbanism%20beyond%20Planning.html accessed November 30, 2013.
[16] As quoted in Catherine Cooke, *Russian Avant-Garde* (London: Academy Editions, 1995), p. 100. From A. Bogdanov, "Puti proletarskogo tvorchestva (Paths of proletarian creative work)," in Proletarskaia kui'tura, no. 15/16 (1920): 50-52, translated in J. Bowlt, ed*., Russian Art of the Avant-Garde: Theory and Criticism 1902-1934* (London/NewYork: Thames and Hudson, 1976), pp. 178-82.
[20] I am indebted to Tiziana Terranova and her article, "Free Labor: Producing Culture for the Digital Economy," Social Text, 63 (vol. 18, no. 2) Summer 2000, pp. 33-58. http://web.mit.edu/schock/www/docs/18.2terranova.pdf accessed September 10, 2014.
[21] Peter Drucker, *Post-Capitalist Society*, (London: Routledge, 1993).
[22] Lazzarato, "Immaterial Labor" http://www.generation-online.org/c/fcimmateriallabour3.htm, accessed August 3, 2013.
[23] Terranova, p. 48.

[24] Terranova, p. 41.
[25] Quoted in Terranova, 43, from Pierre Levy, *Collective Intelligence, Mankind's Emerging World in Cyberspace* (New York: Plenum, 1995), p. 13.