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The Vectoralist Class

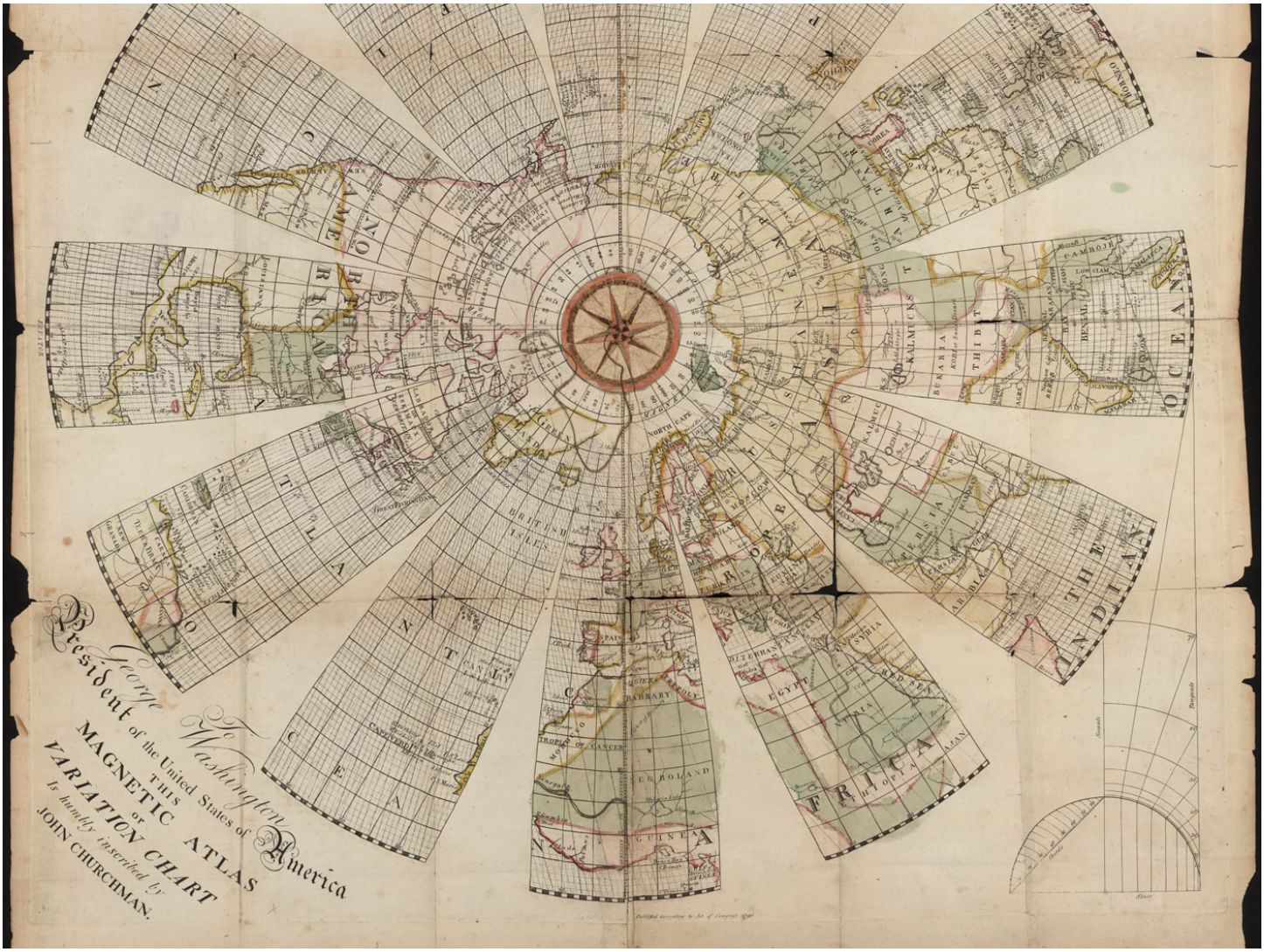
"All that is solid melts into air, all that is sacred is profaned."[1] Of course, much of the resonance of this phrase is an artifact of translation: "Alles Ständische und Stehende verdampft": All that stands steams into statements. Such was Marx's thrilling phrase for how the commodity form sets the world ablaze, vaporizing old social forms and norms, such that whole ways of life and their corresponding worldviews, one after the other, go up in smoke. Such is the grand historical story of *capitalism*, as pretty much everyone has now agreed to call it. Its fanboys now even celebrate its nihilistic torch, rebranded as *disruption*.

For its beneficiaries, capitalism brings the best of times: freedom and prosperity for all, well, maybe not for all, but at least for those most devoted to it. For those cut out by its will, it brings the worst of times, incinerating communal and traditional forms of life, offering in exchange lifetimes of wage servitude and debt peonage. For its protagonists, capitalism is the best of all possible worlds and cannot be improved upon. For its few remaining antagonists, capitalism is the worst of all possible worlds, but the last remaining class society, before the final overthrow of class rule forever. This is now more of a spiritual will-to-power than an actual strategy.

Either way, historical storytelling has somehow become stuck on the fixed idea that there is a thing called capitalism, and we're all moving parts within this same eternal machine. All that was sacred is profaned—except the ideal of capitalism itself. That became something of a fixed idea. For its beneficiaries, because the system from which they benefit must be made to seen natural; for its detractors because the only exit they can imagine to another life is from capitalism. Hence in true theological fashion they insist that while the appearances of capitalism change, the essence remains the same. Is this still capitalism? Or is it actually something worse?

There was a time when it was fashionable to argue that capitalism had already been superseded.[2] These theories are something of an embarrassment now. During the Cold War, those whose typewriters tapped away in the service of the Western capitalist powers needed an historical story to compete with that deployed by the supposedly Socialist states, which claimed that they had entered on an historical stage beyond capitalism in which its class relations would be abolished. And so the Western apologists borrowed from their rivals the idea of an historical form beyond capitalism, that would put an end to class conflict. They called it the information society or the knowledge society or postindustrial society—or anything, really, but not capitalism.

With the collapse of the so-called Socialist states, those historical narratives that tried to will into existence an historical stage beyond capitalism disintegrated. Practically everyone called it capitalism again. But by the late twentieth century, this seemed no longer the basic,



John Churchman's Magnetic Atlas or Variation Chart was the first chart registered under the Copyright Act of 1790 and the second work of any kind, after The Philadelphia Spelling Book, to be registered under the act.

unmodified capitalism of the past, and so new adjectival flavors had to be conjured up to explain its strange appearances. So this was now late capitalism, neo-capitalism, neoliberal capitalism, post-Fordist capitalism, postmodern capitalism, biopolitical capitalism, semiocapitalism, cognitive capitalism, and so forth.

The historical story-telling option that was less often rehearsed would be to wonder whether this was maybe still an exploitative and class-ridden society—just not exactly or entirely a capitalist one.[3] Maybe a fair bit of it could still fairly be described as capitalist, but perhaps there's some new—if no less exploitative—form accreting on top of it. After all, it is clear in Marx's political writings that he thought of social formations as made up of multiple modes of production, of which only one could be called capitalist. The others, he thought, were residual, such as leftover bits of feudalism; or marginal, like simple commodity production.

Some flavors of adjectival-capitalism theory hold that there was a decisive moment when capitalism no longer ruled over these other modes of production in a formal way, but really did subsume them into capitalist relations of production proper. But they tend to retard historical thinking at that point: all that is solid melts into air—except capitalism, which goes on forever as always the same. It goes on forever, because in such historical theories, only the proletariat can negate capitalism. History cannot be imagined as changing phases in any other way.

The proletariat as negating agent has taken different forms in different times. It can be the industrial worker, the mass worker, the multitude of the social factory, the masses of the colonial world, and so on. Sometimes it's a matter of alliances, of worker and peasant, or later of worker and student. Sometimes it's a matter of agents from the sphere of reproduction rather than production, such as feminist and queer anticapitalist agency.

Sometimes the agent of negation is based more on racial domination than class exploitation.[4] In any case, what such theories have in common is the fixed idea that capitalism only comes to an end when it is negated by the force of an agency coming from below.

To think this, one has to take as given something that for Marx was only a tendency, and perhaps not a tendency realized: the polarization of the whole social formation into only two antagonistic classes. It is a well-studied problem that on the losing side of this equation, class identity does not at all become clarified. Differences between workers do not become less acute. Problematic "middle strata" cloud the contrast of the class picture. Nor can differences of race and gender be waved away. Nationalism and religious identity stubbornly persist in claiming the allegiances of the oppressed.[5]

Even among those who have paid close attention to differences among the oppressed, and who have taken pains to map out how changes in the mode of production change the kinds of workers who labor within it, there is scant attention to the complexities and changes among the *ruling* classes. This is generally designated just as capital, and with at best two or three crude subgroups. Yes, there's industrial capital and there's finance capital, but that's about it.

So, to sum up our heretical proposals for the historical imagination, they are three: perhaps thinking historical change is a matter of multiple classes and class conflicts; perhaps other classes besides capital and labor could be thought of as driving agents of historical change; and perhaps even within capitalism a new kind of class conflict based on a new mode of production could emerge.

This might seem heretical in relation to Marx's *Capital*, which deals in a simplified form with just the capitalist mode of production and its binary classes of capital and labor. But it might not be too original a manner of thinking forward from Marx's political writing, for example about the sequence of revolutions in France. These were multiclass affairs, in which a rising bourgeois class mobilized peasants and artisans to realize bourgeois interests as if they were the general interest. The coming into being of the labor movement was a long apprenticeship in revolution under the tutelage of another class, before being able to articulate its own interests and methods—however briefly—in the moment of the Paris Commune.

The idea of divisions among ruling classes is hardly all that novel either. Looking backwards, it might be useful to differentiate between a capitalist class and its rural counterpart, a landlord class. The transformation of the old feudal estates, with their peasants paying tithe in kind, into various forms of tenancy in which farmers paid rent in cash is in some respects an historical moment quite distinct from the rise of an industry and the formation of capitalist and laboring classes based on the wage relation.

Second Nature

In the work of David Ricardo, the main class conflict is actually an intra–ruling class conflict between landlord and capitalist.[6] The more of the surplus landlords can capture in the form of rent, the less there is for capitalists to capture in the form of profit. Land being in fixed supply, the economics of rent behaves quite differently to the economics of profit. Rising demand drives up rents, and no new supply of land can enter to bring rents back down. Rising demand drives up profits, but profit is derived from industry, which is not in fixed supply. The rise in profits draws competitors into the market to drive profits back towards historical norms.

Industry is in a sense *more abstract* than land. A piece of land is what it is and it is where it is—a *topos*. A piece of industry is rather more fungible and moveable. Particularly after the rise of fossil fuels as an energy source, industry occurs in a rather more abstract *topographic* space, needing only to be at the crux of flows of energy, labor, and raw materials. It is in this sense that industry can be said to create a second nature: a built environment that no longer follows and forms the contours and topos of the land but rather transforms them into a abstract topographic plane.

Thus, one could tell an historical story about the past that entailed not just multiple classes, and conflict not just between ruling and subordinate classes, but conflict among ruling classes themselves. And perhaps there's more. What if the historical tendency towards a more and more abstract terrain of social production and exploitation did not stop with industry? Under what conditions could it be said that there is a new kind of ruling class?

Here it might help to think in what way industrial commodity production might differ from agrarian commodity production. The latter is already a kind of abstraction. It separates the peasantry from its ancient rights and obligations to a particular estate. It makes not only peasants but their land equivalent and exchangeable. It eventually undoes the hereditary title of the lord to the land. To belong to the ruling class is no longer a hereditary right. Particulars of place, or right and duty and custom, are swept away.

But there is still a certain fixity to agrarian commodity production. The land is the land. A place is a place. A topos is a topos. It remains a landscape of fixed contours that the farmer *forms* but does not really *transform*. Flows of agricultural produce issue from it, but from a quite stable field.

Industry is different. Particularly once there are flows of coal, grain, and labor and the iron means to carry them, a

far more abstract and malleable topography comes into being. It draws a new diagram across the old terrain. The towns expand to soak up the now surplus labor from the countryside. That labor is set to work in the new factories, supplied by rail and canal with raw materials and food from the colonies.

This is the era in which the town wrests political and economic power from the country, using the first rudimentary fruits of a soon to be systematic instrumentalizing of nature itself—an industrial technology. Capital and labor transform the once solid world of rural life into the liquid world of industrial second nature.

The transition from feudal to commodity production in agriculture might be mostly a change in forms of property, but the creation of commodity production in industry took a bit more than that. It was a transformation not only of the relations but also of the forces of production. It is worth noting here the role that scarcity played. With the mines running ever deeper and the forests going under the axe, it took a considerable application of technical ingenuity to keep production going. The coal-steam-iron complex arose out of scarcities of natural resources but at the same time produced a quite other nature.[7]

This second nature, while in some respects a more abstract terrain, nevertheless had certain vulnerabilities that could be turned to advantage by a rising working class. What made the strike an effective weapon was that industry relied on the constant flow of resources, of coal and raw materials, and of finished goods speeding off to market. Those flows could be disrupted at key choke points. Second nature was a slender network—ports and rail—of big things—mines and factories—and could be shut down at its weakest link. Organized labor achieved its victories—the eight hour day, the right to organize, universal suffrage, the welfare state, even the October Revolution—not so much through any ideology or organizational form as through the actual or potential use of this power to shut down the infrastructure of second nature.[8]

If the technology from which second nature was built was first industrial and then military, in the case of third nature it was rather the other way around. World War II was the great incubator of information technology, which subsequently played a significant role in the Cold War as well. From the design of complex products to the control of inventory to the logistics of distribution, information technology at first enabled industrial forms of organization on an expanded scale.

But when the Fordist system of mass production and consumption ran aground in the late twentieth century, that same information technology provided the means to circumvent its limitations.[9] In particular, it greatly reduced the power of labor. The power of labor was to interrupt the flows—of the assembly line, of the raw materials, of the energy source. Information technology could replace labor in production, and could provide a more flexible and redundant network that would enable industrial capital to move its sites of production away from labor militancy, or to route flows of materials around potential blockages. This is the era of automation, deskilling, and the runaway factory.[10] This was the underside to the historical fables of the information society as the end of class struggle.

The Vectoralist Class

The defeat of labor came at a price for the capitalist class. It meant ceding part of its power to a new kind of ruling class. One that no longer relied on either land or industry as its source of wealth. Its working asset was information itself. The separation of industry from land produced the abstract terrain of second nature. The separation of information from industry produced a yet more abstract terrain of third nature.

Capital defeated labor. This is the era often referred to as "neoliberalism," but this term obscures more than it explains. Ideas don't make history, and certainly not mere revivals or extensions of old ideas. How was it possible materially to route around the power of labor? It has to do with the powers of a new kind of terrain, running on a new kind of infrastructure.

Second nature is still rather topographic, in that the location of industry is still tied to features of the landscape such as natural harbors or coal and iron deposits. Third nature is rather more *topological*, in that the dense network of information that overlays the territory enables the landscape to be stretched, compressed, folded, and twisted into new shapes—at least for the purposes of economic activity. It becomes a dense network of rather more temporary things. The liquid world of second nature, with its canalized flows of capital, labor, energy, resources, and goods, really does vaporize into a new, rather more gaseous state.

Third nature becomes an envelope of information flows that doubles not only the natural landscape but the second-nature one as well. It still has some ties to topography, of course. The old cities of second nature become information hubs. The vast data centers that will continue to mushroom in the early twenty-first century still require massive amounts of power and access to water for cooling. But all this new infrastructure yet produces a topological space in which information comes to control the movement and deployment of industrial resources, which in turn command the extraction and deployment of natural resources.

All that was solid and then liquid finally does melt into air. Space becomes a topology in which any point can connect to any other. A line of economic activity becomes a *vector*,

in the sense that it can in principle be deployed anywhere. Connect a supplier of materials to a site of processing with a vector. If the supply becomes erratic, move the vector to connect a different supplier. If the labor at the processing site becomes difficult, move the vector again, connecting the new supplier to a new site of processing. If the capitalist firm doing the processing demands too much in profits, switch to another.[11] Castells describes the transition from a space of places to a space of flows, or what I call third nature.

Not only labor loses its power on the terrain of third nature. So too does the capitalist class. Here capital has to be understood in the specific sense of the class that owns the means of production. In many cases this is no longer a locus of power. The vector can route around not just labor but capital too. The ascendant power over both labor and capital is the vectoralist class. It does not control land or industry anymore, just information. It does not claim its share of the surplus as rent or profit, but as *interest*.[12]

The oldest form of the vectoralist class is finance, but in the past its power has always been relative. Second nature did not support the use of information as a means of absolute control. It is only with the production of an infrastructure in which information becomes separated from its material strata, and can be efficiently channeled anywhere on the planet, stored at negligible cost, processed easily into complex patterns, that the vectoralist class comes into its own.

Finance finds itself joined by other kinds of control through information, whether through the control of patents, copyrights, and brands, the control of supply chains through logistics, the control of the spatial deployment of resources through GIS, or most recently through control of access to information about the shifting landscape of people and things by making all things addressable.

The power of the vectoralist class is in the accumulation of interest, which in this context means not just the return on the investment of information in the form of money but any surplus information, acquired through unequal exchanges of information. Its power is now global. Based mainly in the overdeveloped world of Europe, and the United States, the vectoral class thrives by extracting surplus information on a global scale. It rarely owns the means of production anymore. The actual making of things can be contracted out.

Of course capitalist producers challenge vectoral power, but mostly by trying to gain access to the control of information themselves—and hence to escape from capitalist industry and become vectoralist themselves. First in Japan, then Korea, and then China, manufacturing firms have tried to acquire the symbolic power of brands, the patents to sophisticated technological processes, the efficiency of data-controlled labor and supply chains, and to divest themselves of the trouble of directly owning the more routine means of production.

The Hacker Class

The vectoral class enabled the capitalist class to defeat labor, but the vectoralist class has its own problems with a subordinate class. It's problem is not to dominate the class who *forms* nature, or who *transforms* second nature, but who *informs* third nature. Let's call them the *hacker class*. The extraction of interest from the unequal exchanges of information requires the constant production of new information. The production of new information is the job of the hacker class. That this production takes place within a class relation stems from the containment of the production of new information within newly elaborated versions of the private property form.

Over the course of the late twentieth century, so-called intellectual property emerged out of traditional copyright and patent and gradually became essentially a set of fully private property rights. The production of new information as information is based on a technical separation of the flow of information from its material substrate, such that while information still has no existence outside of a material substrate, its relation to that substrate becomes abstract. The potential of this development is then constrained and channeled via elaborations of the private property form.

But the production of intellectual property, like the production of anything, requires cooperation and collaboration. The source of all production passes through what is common. As with the landlord in relation to the farmer, and as with the capitalist in relation to the worker, the vectoralist class has to separate the hacker class from that which its shared endeavors makes.

Once again, the commons is either enclosed, or retained as a subordinate sphere from which commodification draws its reserves. The difference this time is that commons is potentially infinitely shareable. Land or goods can be scarce, but information is only artificially scarce in an era of plummeting costs of copying and archiving. Hence one of the great social movements from the late twentieth century onwards is dedicated to making information common. Information wants to be free but is everywhere in chains.

Freedom with and of information is the utopia of the hacker class. Four strategies for controlling the hacker class are worth mention. Firstly, the hacker aristocracy: a small cadre are encouraged to see themselves not as part of a class but members of an elite. They are rewarded handsomely, and sometimes share an interest in the vectoralist firm through stock options or bonuses. Secondly, routinization: the vectoral infrastructure is itself

designed to separate a few specialized control positions from routine work, in turn separated into discrete parts. Object-oriented programming, for instance, is designed in this fashion. Thirdly, in-sourcing. If outsourcing sends a worker's job overseas to another worker, in-sourcing assigns the hacker's job to anyone who will perform the task for free. Thus the cooperative effort and the commons of information is itself treated as a resource from which to extract interest. Lastly, if all else fails, the hacker can be criminalized, imprisoned, or forced into exile.

The domination of the hacker by the vectoralist is embedded in the very design of the infrastructure within which the hacker class operates. This domination goes far beyond the superstructural domination through ideology of the capitalist over the worker, or the domination through religion of the landlord over the farmer. Indeed all contending classes have to operate within an infrastructure increasingly designed to the specifications of the vectoral class, which not only subordinates the hacker class to it, but all other classes as well.

In sum, then, the history of commodified modes of production can be thought of as passing through three overlapping stages, each of which entails a bifurcation into two classes which polarizes the social field. In each stage that field has a certain quality. The rise of industry, and the struggle between worker and capitalist, produces a more abstract topography, a second nature. The rise of information and the struggle between hacker and vectoralist produces an even more abstract topology, a third nature. This space becomes a global topology in which almost any point can connect to any other, mobilizing resources on a planetary scale.

At each stage, the field of class conflict might have a certain polarity between dominating and dominated classes, but all classes across all three "natures" interact, as if in a game of three-dimensional chess. In many instances the key class conflict may be between different ruling classes. The unity of the three dominated classes can also never be guaranteed. They are not a multitude, but distinct classes with different functions in the production process.

X

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1
Karl Marx and Friedrich Engels, "'Manifesto of the Communist Party," in Karl Marx, *The Revolutions of 1848* (London: Verso, 2010), 70. See also Marshall Berman, *All That Is Solid Melts Into Air: The Experience of Modernit* y (New York: Penguin, 1988).

2
Richard Barbrook, *Imaginary Futures: From Thinking Machines to the Global Village* (London: Pluto Press, 2007).

3
Although this was the path taken in my *A Hacker Manifesto* (Cambridge, MA: Harvard University Press, 2004). See also Richard Barbrook, *The Class of the New* (London: Mute, 2006), on various past attempts to reimagine class.

4
For example, see Dennis Altman, *Oppression and Liberation* (Brisbane: University of Queensland Press, 2012); Shulamith Firestone, *The Dialectic of Sex* (London: Verso, 2015); Cedric Robinson, *Black Marxism* (Chapel Hill, NC: University of North Carolina Press, 2000).

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Erik Olin Wright, *Classes* (London: Verso, 1998).

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David Ricardo, *On the Principles of Political Economy and Taxation* (Cambridge: Cambridge University Press, 1962).

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J. D. Bernal, *Science in History Vol. 2* (Cambridge, MA: MIT Press, 1978), 410ff.

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Timothy Mitchell, *Carbon Democracy* (Brooklyn: Verso, 2013).

9
For political economies of second and third nature, respectively, see: Michel Aglietta, *A Theory of Capitalist Regulation* (London: Verso, 2001); Yann Moulier Boutang, *Cognitive Capitalism* (Cambridge: Polity Press, 2012).

10
See David Noble, *America By Design: Science, Technology and the Rise of Corporate Capitalism* (New York: Oxford University Press, 1979).

11
See Manuel Castells, *Communication Power* (Oxford: Oxford University Press, 2013).

12
Dan Schiller, *How To Think About Information* (Champaign-Urbana, IL: University of Illinois Press, 2010), has a fine account of the struggle to break up America's telephony monopoly in the late twentieth century, which I read as a failed attempt to curtail the power of a rising vectoralist class.