Circuits of Struggle?

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Keywords: circuits, class struggle, value, labor power, exploitation, alienation

Abstract

Struggles circulate; if they circulate far enough, with enough intensity and effectiveness, they explode into revolutions. In some cases, they merely ripple along what Karl Marx formulated as the circuits of capital – representations of sequential moments that capitalists must realize to reproduce their way of organizing social life around endless work on an ever-expanding scale. Because they are imposed, involve exploitation and alienation, and are therefore resisted, the moments of the circuits always spawn antagonism, involving various degrees of resistance. The intensity and consequences of struggles vary with the degree of exploitation and alienation involved and the types of action undertaken. Effective instrumentalization that confines opposition within closed circuits can harness it to drive capitalist development. In other cases, ripples become waves as the manner of their circulation defies harnessing and their intensity ruptures moment after moment, disrupting circuits and bringing on crisis. Marx analyzed the circuits of capital in terms of the flows and metamorphoses of value. Workers' actions, when they rupture the circuits, disrupt the flows of value, or, put differently, they disrupt capitalists' ability to impose that which is of value to them, i.e., work-as-social-control. Understanding the circuits required for the reproduction of capitalism reveals both containable patterns of struggle and criteria for recognizing when they have escaped containment to constitute new patterns of behavior that provide alternatives to capitalist modes of social organization. A variety of metaphors facilitate the recognition of both the circulation of struggles and how they may escape the circuits of capital via the creation of new modes of existence.

This essay is a revised version of a talk delivered to the Union for Democratic Communications' Conference on Circuits of Struggle, held at the University of Toronto on May 2, 2015. My response to the question: "*what potential do you see for resistance, subversion, re-appropriation, and repurposing of communication technology as part of a network of global class struggle?"* was based mainly upon an intense twelve years using e-mail (electronic mailing lists, especially Chiapas95) and web pages to circulate information about the Zapatista struggle for indigenous autonomy in Chiapas, Mexico. This also involved discussions among those engaged in solidarity work supporting them. My response was also based, but to a lesser degree, upon more recent observation of the use of social media in other types of conflict.[1] What I offered were a few words – mostly of a methodological sort – about the titular theme of the conference: *circuits of struggle*, believing our efforts should certainly be the point of departure for all our studies and all our thinking about what we should do next.

The conference's web pages, the cover of the program and the conference poster portrayed electrical circuit diagrams as a clever metaphor for circuits of communication and collaboration among individuals and groups engaged in opposition to capitalist domination and in efforts to develop alternative approaches to organizing social life.[2] A few little fists in the electrical circuits represented, for me, moments of explosion when conflict erupts into visibility. Such eruptions are sometimes small, sometimes large. Think of the recent protest demonstrations in Ferguson, Staten Island and Baltimore, or the

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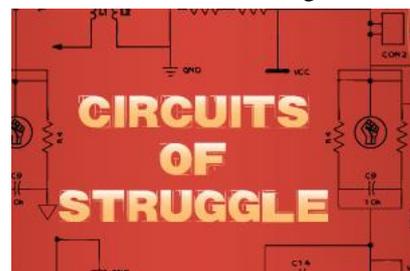
[1] Although I terminated the Chiapas95 LISTSERV some years back, its webpage still preserves remnants of its role in the circulation of support for the Zapatistas, the broader indigenous renaissance and the fight for democracy more broadly in Mexico and beyond. Today, such solidarity work is carried on by the Mexico-US Solidarity Network, the French Comité de solidarité avec les peoples du Chiapas en lutte and the Enlace Zapatista in Mexico.

[2] http://brettcaraway.com/wp-content/uploads/2014/09/UDC2015_web_poster_red.png

Zapatistas coming out of the jungles of Chiapas to take over six cities in the early morning hours of January 1, 1994, or the seizure of public spaces during the Arab Spring and during the Occupy Movement in North America and elsewhere. Small or large, however, such events never burst forth out of nothingness; they explode out of accumulated anger and sometimes, as in the case of the Zapatistas, after long periods of quiet, underground communication and preparation. Therefore, to really understand the eruptions – those fists – we need to study and understand the less visible circuits that have given rise to them. To do so, it is useful, I suggested, to examine the relationship between the concept of circuits of struggle and an earlier concept from which it is derived: the circuits of capital.

Circuits of Capital[3]

Drawing on work by François Quesnay (1694-1774), a French economist who first formulated – in his *Tableau économique* – a circular sequence of acts that he felt both explained and were necessary to the expansion of economic activity, and on critiques of Quesnay by Adam Smith (1723-1790), Karl Marx (1818-1883) reformulated the *Tableau* into what he called the *circuit of capital*. That circuit, like Quesnay's, was at once a metaphor and a visual representation of a sequence of undertakings. In Marx's circuit, the sequence portrays what capitalists must accomplish to be successful. They must spend money to hire workers and buy means of production, set them to work producing commodities that they then must sell at prices high enough to guarantee an acceptable profit. In symbols, Marx represented this *money circuit of capital* as:

$$M – C(LP, MP) . . . P_I . . . C' – M'$$

In this formulation, M = money that is invested to buy commodities $C(LP, MP)$, LP = labor power (the ability and willingness to work for an employer) in the labor market, and MP = means of production (buildings, tools, raw materials) from other capitalists. P_I = industrial production, where hired workers use tools and machines to convert raw materials into new commodities, whose value C' and the amount of money earned by selling them M' are both (if all works out as planned) greater than the initial investment M. At that point the whole process begins again on an expanded scale (because M' can purchase more LP and MP than M).[4] This circuit can represent either the necessary activities of a single industrial firm, or of industrial production as a whole.

At the level of the whole, because C' includes MP, the only element whose expanded reproduction is unaccounted for in his representation is labor power. Writing in a period when capitalist intervention into workers' lives outside the factory was limited, he represented workers' sale of their labor power (with $LP – M$ being the counterpart to capital's $M – LP$) as something they were forced to do with the simple goal of obtaining enough money to purchase the means of subsistence $C(MS)$ necessary to support their lives, i.e.,

$$LP – M – C(MS)$$

This "little circuit" represented the common situation of workers in 18th and 19th Centuries when a huge portion of the labor force lived very near to biological subsistence with wages sometimes rising a little above and sometimes falling below the level necessary for survival. Today, when many workers have succeeded in pushing their wages (and other forms of income) well above biological subsistence, economists speak of consumer goods and services instead of the means of subsistence.

What Marx's "little circuit" leaves out is how capital has progressively intervened in the consumption of $C(MS)$, shaping it in various ways to make sure that consumption becomes not merely the regeneration of life, but the reproduction of life as labor power. Other than a few exceptions, such as the efforts of the Welsh mill-owner and reformer Robert Owens (1771-1858) who created schools for his workers' children, Marx correctly commented that, for the most part, capitalists felt they "could safely leave [the reproduction of labor power] to the workers' drives for self-preservation and propagation".[5] However, progressively over time, as workers won higher wages and shortened working hours, capitalists have intervened systematically to shape working-class consumption in ways that undermine their autonomy and turn it into the work of producing labor power. To the degree that they are successful, the process can be represented by a *circuit of the reproduction of labor power*, analogous to the industrial circuit pictured above.

$$LP – M – C(MS) . . . P_C . . . LP*$$

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[3] To limit its scope, this article restricts analysis to the circuits of industrial capital that Marx analyzed and to the circuit of the reproduction of labor power. It thus ignores the circuits of financial capital, despite their growing importance in this period of financialization.

[4] Because each element of the circuit has to be reproduced on an expanded scale, Marx had two other representations of the same sequences, one beginning and ending with C' and one beginning and ending with P_I.

[5] Karl Marx, *Capital*, Volume I, Chapter 23. Both Engels' essay on *The Condition of the Working Class in England* (1845) – which was a fundamental reference for Marx – and multiple passages in Volume I of *Capital* illustrate that they were very aware of how capital shaped working class life. See, for example, his extensive discussion of the relationship of the Factory Acts not only to conditions and hours of work within factories but to public health and education. Karl Marx, *Capital*, Volume I, Chapter 15, Section 9 on "The Health and Education Clauses of the Factory Acts".

Here too, **LP** and **M** represent labor power and money, but the consumption of **C(MS)** is organized as the production, P_C, of the ability and willingness to work, i.e., **LP***.[6] As with industrial production, P_I, P_C involves a whole array of tasks – perhaps both would be better symbolized by matrices – which, in so far as they contribute to the production of life as labor power, amount to work for capital every bit as much as the work done in industrial production. The ***** in **LP*** is different from the prime in the industrial circuit because the value of **LP** may be larger or smaller than the initial **LP** depending upon the amount of work involved in P_C, which influences the necessary value of **M** and **C(MS)**.[7]

Each moment of all these circuits involve various forms of communication as essential elements, which also require specific forms of labor. *Within labor markets* workers have to search for information about available jobs and then apply for them – work that ranges from scanning newspaper advertisements to culling Internet resources, e.g., LinkedIn and professional online journals, the drafting of resumes and curriculum vitae, preparing for, traveling to and undertaking interviews with perspective employers. Imagine how much greater and more complex such work is when the necessary traveling involves migration, often illegal and dangerous, across nation-state boundaries to entirely new labor markets that function, for the most part, with foreign languages and unfamiliar institutions. Moreover, finding and obtaining employment is rarely quick. For those who qualify, surviving the labor market also involves the work of applying for and suffering through the requirements for unemployment compensation or welfare while searching for a job. For those who don't qualify, the work of survival is even greater.

On the other side of the labor market, capitalists must employ personnel workers who must concoct appropriate advertisements about job openings and then evaluate applications – assessing evidence from school transcripts, information from previous employers, social media, criminal records and personal interviews – sorting and sifting applicants to discover those most likely to work willingly and ably.[8]

Within production, communication and information flows are essential to the organization and regulation of work, partly through the provision of appropriate information to workers and partly through the monitoring of their labor to measure the amount and productivity of their work. Some of this work is handled by industrial engineers and work-flow coordinators; some constitutes the duties of overseers, pimps, sub-contractors, quality control officers, IT surveillance specialists, private security and corporate spies who track the behavior of workers both on the job and off.[9] Those on assembly lines, working mainly with their hands, may require little information and considerable oversight; those who work with their minds require a great deal more information and more subtle monitoring. Where the labor force is multinational, multicultural and multilingual the difficulties of communication and the work involved is multiplied.

When it comes to *the final stage* of the circuit of money capital **(C' – M')**, a vast array of sometimes in-house and sometimes out-sourced labor is employed to conduct marketing research, design advertising, track individual purchases (infamously, nowadays through the monitoring of Internet use). Such labor also sells information gathered through such surveillance, transports products and handles face-to-face retail sales. For the modern multinational corporations that operate in many countries and ship their products to many more, the amount of information and communication required is vast.

Within the circuit of the reproduction of labor power, the work of organizing and communicating information also plays an essential role. If the labor of producing and reproducing labor power **(P_c)** is understood to include not only procreation, child rearing, the maintenance of one's own labor power and that of other family members, shopping and other forms of housework but also school work, psychotherapy and everything else required to produce and maintain the willingness and ability to work for capital, then obviously another diverse array of labor is required. This labor is paid for directly out of wages and salaries, indirectly through taxes or as an employment benefit, e.g., day-care, health insurance or medical leave, or never paid for at all. The worker counterpart to capitalist marketing and sales efforts is the work of identifying personal and family needs and desires, gathering and evaluating information pertinent to meeting those needs and realizing those desires at minimum cost. This will involve shopping and managing expenditures, savings and taxes to make purchases possible. The caring labor involved in procreation, child rearing and the maintenance of self and other family members obviously requires not only keeping up with information necessary to those tasks. Daily affective labor is involved in assessing moods, preparing nutritious, agreeable meals, providing clean, appropriate clothes and living conditions, sometimes disciplining children, or better providing them and spouses with moral support and tender loving care. (In some cases, this will require taking measures of protective self-defense, including finding outside help and

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[6] I first set out this circuit in an appendix to "Malaria, the Politics of Public Health and the International Crisis", *Review of Radical Political Economics*, Vol. 9, No. 1, April 1997 on pages 97-99.

[7] For instance, when capital has been faced with *less* work of reproduction, e.g., women refusing the work of procreation such that the supply of labor power has grown more slowly or declined, it has had to pay more – a higher **LP*** – to achieve the same availability. When capital has succeeded in lowering real wages and workers have compensated through *more* unpaid work of reproduction, **LP*** might be lower and profits higher. Examples of the former are the "family wages" and "family allocations" of post-WWII pronatalist programs adopted in Europe to encourage child bearing and labor force expansion in the face of the growing power of women to control their own lives. An example of the latter, was the imposition of higher food prices in the early 1970s that forced many workers to compensate for lower real wages with unpaid subsistence gardening.

[8] Although this kind of work is carried out by those employed in personnel offices of employers, it is also a central function of teachers and professors who grade and school and university administrators who award, or withhold, degrees designed to inform employers of the willingness and ability of students to work. An illuminating discussion of the central role of information and communication in these processes can be found in Midnight Notes Collective, "The Work/Energy Crisis and the Apocalypse", *Midnight Notes* II, Vol. 1, 1980, section G, on "The Manifold of Work Anti-Entropy Qua Information", and reprinted in George Caffentzis, *In Letters of Blood and Fire: Work, Machines, and the Crisis of Capitalism*, Oakland: PM Press, 2013, pp. 11-57.

[9] Here too, surveillance of workers on the job and identification of activities subversive of work – from theft and hijacking (from trucks and shipping containers to whole ships) to union organizing – is complemented by some outside of industry, such as mercenaries, police, soldiers, prosecutors and judges, all state employees paid for by workers qua taxpayers.

support from extended family members, psychotherapists, family counselors, the police or institutions dedicated to aiding victims of abuse).

Flows: Circuits of Value

A key concept in the idea of circuits is that something is flowing in a circuitous manner. This was William Harvey's (1578-1657) insight into the human circulatory system where blood flows from and back to the heart. It is obviously fundamental to the functioning of electrical circuits. It was Quesnay's notion that the earth's natural fertility generated increased wealth that flowed out through trade to manufacturers and back to the farmers whose labor had tapped that fertility. It was clearly both Adam Smith and Marx's notion that labor utilized in the production of all commodities – and not just agricultural goods – had the possibility not only of regenerating the initial value, but also generating a surplus value (if all went well, from the point of view of investing capitalists). But what, exactly, is the substance of this "value" that is flowing in Marx's circuits of capital and can be regenerated and even augmented?

For Marx, the substance of "value" is labor – more precisely, abstract labor, or labor without regard to the particular sort of labor. Particular labors we know: we dig a ditch with ditch-digging labor; we write a computer program with programming labor; we take care of a sick family member with caring-labor. Each of these concrete, particular labors may involve a whole gamut of skills, wielded in ways particular to the individual employing them. Under what circumstances does it make sense to speak of labor-in-general, or abstract labor, without regard to skills or the particularities of their employment? It makes sense in capitalism, I argue, because all kinds of labor have a common purpose: social control. Putting people to work is the most fundamental method through which capitalists organize their society. There are other forms of control: the cultivation of consumerism, the diversion of political energy through entertainment or its exhaustion through formal electoral politics and prisons or mental hospitals for those who refuse to work. But by far, the primary vehicle through which capitalists organize our days, our weeks, and the years of our lives is through the imposition of work. Either, they put us to *waged or salaried work* **(P$_I$)** producing commodities through the sale of which they can earn profits – that they can then use to impose more work. Or, we are put to *unwaged work* **(P$_C$)** producing and reproducing the ability and willingness to work for them, first at home, then in schools and later in homes and communities.

Although both of these kinds of labor are necessary for the expanded reproduction of capitalism, of its antagonistic class relations, it was upon waged labor that Marx focused most of his attention. He used a biological metaphor and wrote of the *metamorphosis* of value as the money form of value **(M),** i.e., value embodied in or represented by money, is converted into labor power **(LP)** and the means of production **(MP)**, then into production **(P$_I$)**, then into final products **(C')** and then, finally, once again into money **(M')**. Each element in the circuit constitutes one moment in a sequence of metamorphoses required to successfully impose work and surplus work, to realize value and surplus value. The capitalist use of surplus of labor that preoccupied Marx is its employment producing extra means of production (beyond the replacement of worn out or used up **MP** and consumed **MS**) whose availability makes it possible to expand the imposition of work, i.e., to impose work on more people or more work on the same people. With such a surplus of labor and value a vital resource – to handle growing populations, resistance and demands for higher standards of living – the measurement of work time and effort has always been a central concern for capitalists. Therefore, Marx's analysis of value also includes a theory of the measurement of work.

The *measure* of the value of a commodity, Marx argued, is the socially necessary labor time required to produce it. Why? Because that is the average amount of labor that can be imposed to produce it. The value to capital of a commodity is the usefulness of its production in providing a vehicle for putting people to work. The more work that can be imposed in its production, the more valuable the commodity. If productivity rises in the production of a commodity – say because capitalists substitute machines for troublesome workers – such that the socially necessary labor time required to produce each unit falls, the value per unit of that commodity to capital also falls – making its production less useful as a means of putting people to work. (*Ceteris paribus*, it also makes its production less costly and thus more profitable.) Because such substitution is widespread, this capitalist counter-measure to the struggles of workers in production undermines the very basis of capitalist control: the imposition of work.[10]

The final moment of the circuit – necessary for value to complete its metamorphoses – Marx calls the realization of the *form of value* or exchange-value; commodities must be sold. Only through sale **(C' – M')** can value return to the form of money, the circuit completed and a new circuit initiated. If products cannot be sold, not only will their exchange-value not be realized, but if the failure proves to be more than momentary, capitalists will cease their production.[11] Such stoppages of production will rupture the circuit of capital, value will cease to flow and neither value nor surplus value will be realized because workers will no longer be put to work producing unsalable commodities.

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[10] Thus further counter-measures are required, e.g., the discovery or creation of new markets for old products or of profitable new products, that expand the opportunities for imposing work, offsetting those lost through mechanization and robotization.

[11] Obviously, short-term, minor market downturns, in which sales fall, inventories pile up and commodities can only be sold below their value, will not lead capitalists to immediately abandon their investments. They will merely make marginal cut backs in production, by laying off a few workers (to be recalled later) or shortening working hours. Longer-term, major depressions, on the contrary, involve widespread reductions of production, the failure of firms, rising unemployment and often, social unrest. It is also true that most commodities have "life-cycles" – in which death occurs when demand persistently falls to the point where the prices at which they can be sold are no longer sufficiently profitable to justify their continued production. Such life cycles are not merely the result of the shifting whims (or political actions) of consumers (say in boycotts) but are frequently engineered by capitalists themselves, i.e., planned obsolescence, such as changes in automobile models, in clothing fashions and in computer software and hardware. In those cases, of course, the engineers and designers have new products ready to replace the old so as to maintain or expand work and sales.

Flows: Circuits of Antagonism

Because capital is not just money, nor factories, nor commodities, nor all of them together, but a social relationship that has historically been imposed, we must recognize that each moment of the circuit of capital represents a distinct act of imposition. Because those moments are imposed ones, designed as vehicles of control and of exploitation, with alienation as a consequence, each moment unavoidably becomes a terrain of antagonism and conflict – including that of class struggle [originally included: and of efforts to go beyond class]. Thus the circuits of capital are also *circuits of antagonism*. The roots of antagonism Marx analyzed in his examination of "primitive accumulation" – those frequently repeated historical processes by which capital has enclosed or stolen people's land and tools and forced them into the labor market. Once separated from any means of autonomous life, the antagonism continues, ever repeated.[12] We are forced or born into situations in which we must obtain money to buy the things we need to live. To get that money, our primary legal recourse is to search for jobs. To keep those jobs, we must work – doing what we are told, the way we are told to do it, with the tools we are given, under conditions arranged by our employers. At each step, from labor market to work place, we are pitted against one another in a carefully planned structure of competition – unwaged against waged, lower waged against higher waged, black against white, women against men, and so on. Often angry and frustrated due to such imposed conditions, we carry antagonism with us through the circuits and from one circuit to another.[13] Antagonism flows through the circuits of capital, an inevitable aspect of the control and constraints on our lives that constitute the substance of value.

This inextricable qualitative connection between value and antagonism raises an interesting question of the degree to which antagonism, like value, can be measured and the forms that it takes. If socially necessary labor time measures the value to capital of our work producing commodities, what measures the antagonism involved in that work? The amount of stress we experience? The frequency of migraine headaches? The degree to which we grind down our teeth? The number and seriousness of acts of absenteeism, of slacking off or playing on the job, of sabotage, of "going postal"? How about measures of secondary effects: frequency of illness due to stress, of suicide, of domestic violence, of compensatory drug use or the number of miserable years we manage to survive? Each of these may, to some degree, be measurable, but there would seem to be no overall measure analogous to socially necessary labor time.[14] But then, that is inevitable. Fundamentally one-dimensional, capital can measure everything with a single yardstick – the amount of work it can impose – because everything else is secondary; but for us, our lives are complex and multidimensional, so our experiences of exploitation and alienation are equally various. We need not seek a unifying unit of measure but can embrace our own multiplicities of measure – both of the antagonism we experience and of the joys we are able to wrest, despite prevailing circumstances.

Even if we neither can nor need to identify a unique measure of antagonism, we can, nevertheless, recognize that the degree of antagonism is likely to be proportional to the degree of exploitation and to the degree of alienation that we experience. Let's look first at the former and then at the latter.

Exploitation – the extraction of surplus labor – takes place in the sphere of production as managers pressure or fool workers into working more than necessary to replaced used-up **MP** and to produce the means of subsistence, **MS**, or consumer goods (required for the reproduction of their labor power). Marx offered a formal definition of the *rate of exploitation* as the ratio **S/V**, where **S** = surplus labor, or surplus value and **V** = necessary labor or the value of labor power, i.e., the value of the means of consumption necessary for the reproduction of labor power. Collectively, surplus labor or surplus value is the amount of extra labor performed for capital producing those products required for investment and expansion. At the level of individual circuits of capital, surplus labor and surplus value are embodied in the profit realized – that will then be used to purchase more means of production and more labor power. In short, the rate of exploitation measures the degree to which capital appropriates our work for its own future expansion versus the degree to which it puts us to work producing the current requirements for reproducing our labor power. The higher the rate of exploitation, the more of our lives' time and energy are being sucked "vampire-like" by capital, and thus the greater the antagonism.[15]

We must also recognition how capital turns our activities into work for its own purposes beyond the domain of wage and salaried labor, in that of unwaged labor – as several Marxist-Feminists have pointed out.[16] To the degree that the

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[12] For a time, in some cases for many generations, those pushed off the land and into the labor market have fought to get their lands back – sometimes succeeding in forcing capital to enact "land reform". Such was one result of the Mexican Revolution that succeeded in restoring millions of acres of land to indigenous communities as collective property. It was partly the effort by the Mexican government to undermine that property that led the Zapatista communities to order their army to take the offensive in 1994.

[13] As Bruce Springsteen sings in his song Factory, "End of the day, factory whistle cries, / Men walk through these gates with death in their eyes. / And you just better believe boy, / Somebody's gonna get hurt tonight." *Darkness on the Edge of Town*, Columbia Records, 1978 (JC-35318).

[14] Due to workers' success in extracting medical benefits from their employers and the rising costs of health care, some employers have recently followed the lead of insurance companies and begun trying to track and measure workers' physical health and to reward improvements, e.g., reduced obesity, or to penalize the failure to take what they decide constitutes adequate preventive measures to ward off illness. This contemporary shift by employers is reminiscent of early capitalist concern with public health measures to reduce their costs due to illness and to increase the productivity of their workers. See my article "Malaria, the Political Economy of Public Health", *International Journal of Health Services*, Volume 7, Number 4, 1977, pp. 557-579.

[15] Marx liked gothic metaphors and frequently used that of the vampire to describe capital's relationship to our lives. See, for example, in the online edition of *Capital*, Volume I, Chapter 10, Sections 1, 4 and 7. Elsewhere, he also spoke of its "were-wolf hunger" for more and more of our blood (lives).

[16] The seminal article laying out this thesis is Mariarosa Dalla Costa's essay "Women and the Subversion of the Community" (1971), translated into English and published, along with "A Woman's Place" (1952) by Filomena Daddario and Selma James and, as *The Power of Women and the Subversion of the Community*, Bristol: Falling Wall Press, 1972.

things we do every day, often structured by capital, contribute to the production and reproduction of our lives as labor power, we can speak of those moments of our lives as being appropriated by capital. On our own, we eat to live, to enjoy life and to share with others; but if we only eat enough fast-food at lunch to make it through the afternoon at work, that lunch has, effectively, been appropriated by capital. We rear our children and take care of each other from affection; but if we act as truant-officers to our children, imposing homework and reinforcing school discipline, or help each other overcome illness just to show up on the job, those parts of our lives have been appropriated, to some degree, by capital. The degree, per se, is not a question of our attitudes but of the purposes served. However, because capital does not want this appropriation to be visible and because it rarely has to pay directly for this work of producing and reproducing labor power, for most of its history neither the amount of time and energy sucked from our daily lives nor the degree of appropriation have been measured.[17] Although we can imagine a "rate of appropriation" in this sphere of reproduction homologous to the rate of exploitation in the sphere of production, we cannot come up with precise measures. Nevertheless, as long as we can distinguish between the time and energy appropriated by capital and the time and energy we are able to reserve and use for our own purposes, we can both imagine and observe increases or decreases in the degree to which our time and energy are being stolen in this sphere.[18]

These measures of exploitation and appropriation – more precise in the case of waged labor, less so in the case of unwaged labor – are static ones in the sense that that they measure subordination at given points in time. They are not measures of flows. Beyond the sense of exploitation (and thus antagonism) flowing right along with the spread of capitalism, I think we can posit that changes in the rate of exploitation at one site of capitalist production, may result in changes in antagonism not only at that site but at others, both in production and in reproduction. Any increase in antagonism can spread, or flow, to other domains. Historical studies have shown how replacing workers with machines or cheaper workers (at home or abroad) has long provoked not only increased antagonism between the fired workers and their ex-employers (and possible scabs), but also among the unwaged more generally. Such firings have augmented the number of unemployed, reduced wages and standards of living. Just how fast such antagonism circulates depends, above all, on how fast one group learns about injustices to others and the threat to themselves. This explains why capitalists do their best to limit the flow of information about such changes and why discovering and circulating knowledge about what is going on is important in efforts to accelerate the circulation of struggle.

Turning to the *degree of alienation*, Marx has provided us with such a rich analysis of the forms of alienation that it is not hard to imagine both degrees of alienation, and thus of antagonism, and changes in those degrees – changes that may circulate through the various domains of capitalist-imposed work. Those forms include: alienation from our work, from our products, from each other and from what he calls our species-being, or the collective exercise of our wills.[19]

In the case of *alienation from our work*, clearly there are degrees. Some of us find ourselves in situations where our every gesture, using each tool, has been specified, based on Taylorist time-motion studies aimed at minimizing time and energy not working and maximizing productivity. In this extreme case, we can clearly see how capitalists manage information within production. Line workers are denied it; managers monopolize it and wield it to control workers who lack it. Some of us find jobs that provide some degree of latitude in how we perform our work. Game programmers may code within given parameters but be very free to imagine and innovate those game elements that have been assigned to them. Salaried elementary and secondary school teachers and adjunct professors at colleges and universities may have very little latitude – being paid to teach particular courses using specified textbooks and imposing standardized tests. Tenured professors may have quite a few more degrees of freedom. They may have time for research and are able to choose the materials they use in courses; they may even be able to design their courses from scratch. Pretty much everything is under their control. They may still have to impose grades, but retain considerable flexibility in how they determine those grades. Unwaged students, of course, compared to their instructor (a school teacher, an adjunct or tenured professor) have far less freedom. They may be able to choose a general line of study, but once chosen most must follow a pre-determined curriculum and study the material assigned in associated courses. They must also perform – in the manner specified – whatever tasks are required to obtain a grade. The more information, knowledge and leeway we have, the more control we have over our work and the less alienation.

In the case of *alienation from our products*, a lot depends on the nature of the products. In most cases of work producing commodities for sale, the alienation is pretty near absolute; despite our having produced them, our products are owned by and under the control of our employers. They are alienated from us in a dual sense: they are taken away from us and then by denying us access to them, except through monetary payments, our need or desire for them is used to keep us in the labor market and working for some capitalist. They become, as Marx says, an alien power used to force us to work. Whether we consciously recognize and resent this situation or not, the alienation from our products remains.

When the "product" of our work is the commodity labor power – produced by the work of spouses, parents, children, teachers, and professors – the alienation exists, once again, regardless of how we think about it. Spouses may take pride in outfitting their waged counterparts for work and easing their later recuperation. Parents may be proud of students they have helped train to get good grades. Teachers and professors may take satisfaction from helping their students succeed. Students who have accepted their parents' and teachers' criteria of success, may study hard and be

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[17] As women's resistance to unwaged housework became more and more of an issue in the late 1960s and 1970s, this began to change. Battles over everything from wages for housework to alimony and palimony demanded data on the amount of work done in the home. One result has been the emergence of "time-use studies" of domestic labor by both the federal government and private researchers.

[18] And thus, also, the likely impact on the value of labor power and the rate of surplus value.

[19] Marx spelled out his theoretical analysis of alienation, or "estranged labor", in the *Economic and Philosophical Manuscripts of 1844*. The first volume of *Capital* (1867), especially Chapters 12-25, contains more detailed explorations of how capitalists structure work and the social relationships of work to achieve, retain or recapture control and thus alienation.

proud (or relieved) by their achievements. But no matter the degree to which the labor of reproduction has successfully produced the willingness and ability to work, by very definition those qualities are *for* capital.[20]

In the case of *alienation from each other*, the problems for us are similar whether we work for an employer producing commodities for sale or we work at producing labor power. In the former case, we find ourselves somewhere in a hierarchy of income and benefits where those above us impose work on us and we are supposed to impose work on those below us. In the latter case, we also experience hierarchy – in the home between a spouse with a wage and one without, between parents and children, in schools (at all levels) between administers and teachers, between teachers and students. Transversally, we also find ourselves divided and pitted against each other by race, by ethnicity, by gender and by age. Everywhere, we are supposed to compete with each other to obtain or maintain positions higher up the hierarchy. These hierarchies are structures of mediation designed to channel our antagonism against each other – to prevent us from collaborating against the carefully designed capitalist structures that divide, exploit and alienate us. Learning better, more collaborative modes of interaction that have been denied to us by a culture of competition, is a difficult and time consuming process – whether undertaken within the context of one-on-one relationships, family counseling or political organizations opposed to capitalism. The acute need for such discovery and reworking of interpersonal and group relationships has been forcefully put on political agendas most often by women who have been disadvantaged by traditional, patriarchal modes of organization.

With respect to *alienation from our species-being*, Marx saw that pitting us against one another is an essential method for thwarting our natural human tendency to cooperate and collaborate with one another, either against those who seek to control and exploit us, or in the invention and elaboration of autonomous, alternative forms of social organization. A man of the enlightenment, Marx believed humans are social animals who group and learn to cooperate and exercise their individual wills collectively – an essential aspect of our species. Clearly, the imposition of work – that alienates us, both individually and collectively, from our work, from our products and from each other – limits, warps or absolutely prevents our ability to freely exercise our wills in all those situations. However, once again, various work situations are structured differently and as with alienation from our work, we can find varying degrees of alienation from the collective exercise of our wills. Given the power inherent in this ability of our species, capital sometimes finds it worthwhile, despite the risks, to encourage us to work together in limited ways – carefully focused upon solving some problem it needs solved and structured to prevent truly autonomous self-activity.

In all these cases, the degree of alienation, just like the degree of exploitation, varies from place to place and over time. As a result, the degree of antagonism between workers and capital also varies. Without direct measures of antagonism, we cannot measure its intensity precisely, but we do have indirect measures through flows and patterns of struggle.

Flows: Circuits of Struggle

After examining the circuits of capital, with their flows of value and antagonism, we arrive at the central focus of the conference: circuits of struggle. Given the antagonistic class relationships of capital, each step of these circuits – labor markets, production, trade and consumption – constitute terrains of antagonism and class conflict and therefore the circuits of capital may be overlain and disrupted by circuits of struggle. Therefore, investigating the degree to which circuits of capital can provide insights into circuits of struggle can also help discover whatever limits there might be to those insights.

How class conflict unfolds differs on each of those terrains. Conflicts in labor markets, such as highly visible strikes, where workers walk out of and then picket their workplaces, differ markedly in form from conflicts that remain at the point of production. These may include much less visible slacking off or stealing on the job, or hidden sabotage. Similarly, attacks on exchange value, such as concealed shoplifting, covert robbery or visible boycotts, may involve quite different actors (workers as "consumers" rather than as those seeking or engaged in waged work) and the use of quite different means for rupturing the realization of surplus value.

Yet the emergence of struggle on one terrain often circulates to another. Taking the *money circuit of capital*, portrayed above, as schema of reference, here are a few examples. Growing covert resistance on the shop floor or in offices undermines P_I and, in the case of sabotage ruptures $P_I \ldots C'$. Due to changing working conditions, such as work speedup and intensified exploitation, growing covert antagonism may explode into overt actions. During protest strikes or even sit-downs and factory occupations, workers effectively withdraw from both production and the labor market, such that $M - LP$, $LP - M$, P_I, and $P_I \ldots C'$ all cease. The success of workers' labor market actions, say by raising wages by restricting the supply of labor power, will improve their ability to disrupt production. Higher wages allow larger strike funds and thus a greater ability to walk out, disrupting both labor market and production. Wages high enough to allow savings not only facilitate strikes but make possible varying degrees of withdrawal from the labor market and thus from waged or salaried labor (either through temporary vacations from work or early retirement). Such

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[20] With respect to abilities, a lot depends on the kind of ability and skills in question. Some may be so narrowly defined that they can only be exercised within a rigidly determined production process. Others may be applicable to activities outside of capitalist work; potentially, their exercise can be unalienated aspects of our personal abilities put to use in whatever way we wish. That said, whenever the training of skills has been organized for capitalist purposes, the skills themselves are likely to be so scarred by such training that they must be modified to become useful for other purposes. This is true in many domains, including scholarly ones where the very concepts have been shaped for capitalist purposes. See the discussion of economics below.

efforts to restrict labor supply have been one reason for local worker support for restrictive immigration policies where immigrants are seen to expand the supply of competitive labor.[21]

In the case of the *circuit of the reproduction of labor power*, success in gaining higher wages may strengthen struggles against the work of producing labor power **(P_c)**, traditionally a domain to which wives and daughters were consigned. Such efforts, for example, have diverted the expenditure of higher wages from men's toys and amusements to labor-saving devices such as washing machines that can reduce the unpaid labor (in **P_C**) required to produce labor power. This frees time for women's participation in collective action – including gaining access to waged jobs previously reserved for men. Losses in real wages, on the contrary, may induce greater amounts of housework, e.g., gardening, cooking, cleaning, to compensate for reduced buying power. There will be thus more work, antagonism and conflict around the production and maintenance of labor power. Speedup and the intensification of work and antagonism in schools, associated with pressure for accelerated transit through curriculum and degree programs and with more frequent and obligatory standardized testing, surely result in greater conflicts over school work **(P_c)** not only in school but at home as well. Heightened antagonism at home can, in turn, reduce productivity on the job.

Similarly, struggle can circulate through connections between and among circuits. A strike in the one circuit of mining capital where coal is produced has often, through simple phone calls, led to strikes in similar circuits – bringing on an industry-wide strike. Unions, or opposition to unresponsive union leadership by rank & file workers, can produce collaboration and mutual aid which may sustain either official or wildcat strikes. Where there is widespread solidarity across industries, workers in one industry may go on strike in support of those in another. Struggles by women in waged jobs, or by unwaged women in the home, that defy patriarchal authority, may circulate to schools as children replicate their mothers' efforts by fighting against unwaged schoolwork.[22] Quite independently of the dynamics within their homes, students have been inspired by women's demands for wages for housework to demand wages for schoolwork.[23]

Similarly, struggles resulting from intensified antagonism can spread geographically, even across borders. Such international circulation has established new circuits of struggle in many different ways. The spread of civil uprisings against repressive governments we have seen again and again – in the 1848 revolutions in Europe, in the wake of WWI and the Russian Revolution of 1917. Subsequent uprisings include anti-colonial movements for national liberation, the spread of guerrilla warfare in Latin America after the Cuban Revolution and the resistance against American military intervention in Vietnam. Civil uprisings were also seen in the dramatic collapse of communist regimes in Eastern Europe in 1989 and more recently in the emergence of the Arab Spring in 2011, as struggles in Tunisia circulated to other parts of North Africa and the Middle East.

Antagonism and struggle have often been carried from one place to another by workers themselves. Immigration is an obvious example as is the case of deported workers or migrants returning home from work abroad. Workers carry with them experiences of exploitation, alienation, antagonism, organization and struggle – which then reverberate in their countries of destination. Volunteers have also left their homes and traveled long distances to risk their own bodies in support of others' struggles. Marx and Engels were among those who went to fight in Germany in 1848. Wobblies, socialists, communists and anarchists went to Russia after 1917 to join the revolution. International Brigades of volunteers from Europe, the United States and elsewhere joined the Republican cause during the Spanish Civil War of 1936-39. During US Civil Rights Movements, the Student Nonviolent Coordinating Committee organized Mississippi Summer in 1964 bringing young people from all over the country to help register African Americans voters. Beginning in 1969, others have joined the Venceremos Brigade in Cuba to help with development and to protest US policies toward that country. Others traveled to Nicaragua in the wake of the Sandinista victory in 1979. A great many international observers have gone to Chiapas since 1994 to witness and report on Mexican government crimes and by so doing, try to limit them. Others have organized caravans of material aid and worked on the ground, building things like schools and small hydroelectric installations in Zapatista communities. Currently, volunteers are traveling to join various factions of the civil wars in the Middle East.[24]

It has also taken the form of solidarity movements – organized local action by those far from scenes of immediate conflict. Some examples. In the 1960s, anti-war protestors expressed their solidarity with the Vietnamese resistance to US government intervention in street demonstrations, teach-ins and university take-overs, chanting "Hồ, Hồ, Hồ Chi Minh, the NLF is going to win!" The solidarity of unwaged housewives all over the United States with farm workers during the famous 1965-1970 Delano grape boycott in California helped the United Farm Workers win union recognition, collective bargaining, better wages and improved working conditions. In the 1980s, anti-apartheid college

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[21] Historically, the Immigration Restriction Act of 1921, and the Immigration Act of 1924, that included an Asian Exclusion Act, received worker support based on such fears – heightened by the Red Scare of 1919-1920 and the nativist and racist campaigns of politicians and proponents of eugenics. Even labor leaders such as Samuel Gompers, founder and then president of the American Federation of Labor, supported these acts. Today, contemporary politicians and nativists utilize the same kind of politics, inciting local workers against immigrant labor. Legal restrictions, for the most part, rather than actually blocking immigration, merely force what would otherwise be legal immigrants to have recourse to illegal methods, which are then used to justify police state methods of terrorism against them and their communities – undermining not only their ability to fight for decent jobs but their ability to establish collaboration with local workers.

[22] Striking examples were protests by schoolchildren in the UK that began around 1889 and became full-blown walkouts, sparked by widespread strikes by their parents in 1911 that closed schools in 62 towns. The children downed pencils, papers and chalk, walked out, "formed committees, painted banners, organized mass meetings and picketed and attacked 'scabs' who entered the school gates." See Dave Marson's 1973 pamphlet, *Children's Strikes in 1911*, 1973 and "The 1911 Schoolchilden Strikes", *BBC History Magazine*, No. 142, September 2011. More recent examples have been the thousands of students who flooded out of schools to join the "Si, se puede!" immigrant rights marches in 2006 and since.

[23] Two examples: one in 1974 in London, the other in 1975 at the University of Massachusetts at Amherst.

[24] Obviously, we have to differentiate between workers who are traveling to the Middle East to support other workers, e.g., fighting exploitation and repression by the Assad regime in Syria, and those who are traveling to join terrorist groups.

students protested on campuses demanding university divestment in corporations doing business in South Africa. So too, in the same period, did a new movement blossom on campuses in opposition to American military intervention in Central America. Such solidarity we saw, once again, in 1990s, as the Zapatista uprising in Chiapas catalyzed an upsurge in anger and solidarity among the indigenous and others in Mexico seeking democratic reforms (and among all kinds of people across the globe who protested at Mexican consulates and embassies).

Yet another kind of cross-border mobilization occurred with the spread of the alter-globalization movement, gestated in the Zapatista Intercontinental Encounter of the Summer of 1996. That gathering, led directly to the formation by Swiss participants, in conjunction with peasant activists from India, of People's Global Action (PGA). PGA activists have organized Global Days of Action and mobilized massive civil disobedience aimed at disrupting the meetings of capitalist supranational institutions. The first such Day besieged the World Trade Organization (WTO) meetings in Geneva, Switzerland, in 1998. Another, the following year, helped organize the Battle of Seattle (Washington) that brought the WTO meetings to an abrupt halt. Subsequent actions have been organized by a wide array of groups against the Maastricht Treaty, the International Monetary Fund and the meetings of the G8, wherever they gathered.

The ability of workers in other areas to appropriate dramatic and effective methods, undertaken by a single group, was evidenced in the spread of sit-downs from the auto factories of Flint Michigan in 1936 to all kinds of different situations around the world. We saw it on college campuses during the anti-war movement of the 1960s where teach-ins and building-occupations proliferated. We saw it in Appalachian coal country in the late 1960s and early 1970s where wildcat strikes spread from pit to pit. We also saw it in the Occupy Movement that set up camp in Zuccotti Park in New York City and spread rapidly across the country and around the world.[25] Even after the movement effectively ended, it spawned related actions such as Occupy Sandy, Strike Debt and Occupy the SEC. [26] We see similar circulation today as the general strikes by Greek workers against the imposition of austerity by European banks, state and supra-state institutions have circulated to Spain and Portugal. Such circulation does not occur where people are satisfied and content. The circulation of struggle reveals similar experiences of exploitation, alienation and antagonism.

Capitalist elites and state institutions have sought to control information flows, limit communication, mediate and divert anger and frustration away from themselves, and from the system more generally. Struggles of resistance, those of workers on the offensive and those of people trying to elaborate alternatives to capitalist ways generally, have involved concerted efforts to obtain hitherto hidden information, expand networks of communication, minimize competition, rupture or bypass mediations, enhance collaboration and focus anger where it belongs.

During all the conflicts mentioned in the previous paragraphs, overcoming impediments to information flows, and developing new forms of communication played key roles. The struggles of 19th Century revolutionaries mainly involved face-to-face and collective meetings, within and across borders, the publication of leaflets, songs, posters and pamphlets, and the organization of covert groups to escape police repression. The efforts of workers to form trades unions and then industrial unions were mostly restricted to similar means of communication, but strengthened with the spread of telephone and radios. By the time of the Civil Rights Movement not only were its activists able to tap two vital pre-existing institutions focused on communication – Black churches and colleges – but they quickly learned to utilize the post-WWII spread of commercial television to circulate their sit-downs and protest marches far beyond the sites chosen for civil disobedience.

The anti-war movement did the same, utilizing photos and film footage of war horrors, its own demonstrations and police repression to spread their message beyond local actions. When biased news reports in mainstream media and complete blackouts limited public knowledge of the arguments and actions of the movement, activists could still use teach-ins, building occupations, imaginative protests, "underground" newspapers, comic strips, newsletters, magazines and eventually alternative academic journals. All these means were used to reveal and circulate information of two sorts. First, the real story of government action hidden by propaganda and lies but liberated by whistleblowers. Daniel Ellsberg's public release of the hitherto Top Secret *Pentagon Papers* is a case in point. Second, stories of university complicity with the war, discovered by guerrilla research. Documents stolen from administrative files and individual professors, revealed connections between campus-based research and the government's war efforts. Both sorts of information provided the basis of alternative interpretations of the history and current nature of the conflicts. Intensive research also revealed interlocks between university trustees or regents and corporations profiting from the war. The more such links were revealed, the more student protests against their own administrations complemented opposition to the government's wars. One central demand was for universities to disengage from all relations with the US military and intelligence agencies – from ROTC and CIA recruitment on campus, from research funding or from contracts financing military training. By the time the war ended in 1975 a great many such links had been ruptured.

The student movements of the 1980s, which demanded university divestment in corporations profiting from apartheid in South Africa also opposed US military interventions against revolutionary movements in Central America. In both cases they used research techniques learned during the anti-war movement to reveal university involvement and suggest alternatives available to the investment of endowments and renewed links between universities and the military. In response to President Carter's reestablishing of obligatory registration with the Selective Service System and to discussions during the Reagan Administration of reinstating conscription for Central American intervention, the anti-draft movement was reborn virtually overnight. Successful revelations of Reagan Administration's backdoor deals with Iran to fund "Contra" terrorism in Nicaragua and of the violation of legislative restrictions on war funding led to the

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[25] There is a useful Wikipedia page on the "Occupy movement" that gives brief accounts of related actions around the world.

[26] SEC = U.S. Security and Exchange Commission, established in 1934 as a federal government agency to regulate markets for securities and to protect investors. It has been under attack for many years for failing to do its job and thus contributing to conditions facilitating financial crisis.

"Irangate" Hearings in Congress, and limited the possibilities of intervention. Efforts to enforce Selective Service registration ended in 1986 due to continued popular resistance.

By the time the Zapatistas came out of the jungle in 1994, earlier struggles against NAFTA and mobilization against the First Gulf War had discovered the power of email. Solidarity activists made use of it, along with webpages to counter Mexican government and mainstream media efforts to block the flow of information about the uprising, its sources and goals. As handwritten letters were first typed into newsprint, then scanned into digital form and circulated in cyberspace, the words of a revolution for the first time in history could be read daily soon after they were inscribed. Archived on websites, information about the ongoing situation and the rebel's own interpretations progressively constituted an unfolding drama and history available to activists everywhere to discuss, interpret and explain to others. The result: the most widespread global outpouring of opposition to the Mexican government's efforts at repression ever seen with respect to any conflict to date. The government was caught completely off-guard and was compelled to avoid military action in favor of political negotiation. As with the case of US military intervention in Central America, the Mexican government's actions were largely limited to support for paramilitary and local police repression. Thanks to such widespread national and international constraints, the Zapatista movement survives to this day and continues to prosper and innovate alternatives to capitalism.

The explosive growth of the alter-globalization movement made use of all alternative means of communication to outflank mainstream media and organize actions: email, webpages, real-time video and Indymedia. Mobile phones could be used to coordinate actions and report ongoing protests and police repression. The Battle of Seattle was perhaps the first time mainstream televising of protest action could be countered virtually real-time through activist-managed webpages streaming video shot on the front lines.

Participants in the 2011 Tunisian uprising and those that followed in North Africa and the Middle East and those who organized the Occupy Movement were able to utilize, to varying degrees, depending upon availability, a diverse array of social media. These included blogging, instant text messages, images and video sent by cell-phones, Skype, Facebook, YouTube and Twitter. All of these, added to the continued use of e-mail, the web and the adaptation of other methods inherited from previous social movements (e.g., face-to-face discussions, assemblies or encounters, pamphlets, news releases, posters, street theater) dramatically multiplied the number of circuits and accelerated the flow of information through which activists and protestors could communicate and organize.[27] While smart-phone video capabilities were perhaps more restricted in the former areas, that limitation was overcome by other means, especially blogging. Local video recordings made it possible to stream images out of the area into Northern Europe and North America where even mainstream media sought to keep abreast of events, while solidarity activists downloaded and circulated their recordings to build support at home. As protests became civil unrest and then civil war in places such as Syria and Yemen, because of massive military repression, new methods of circulating information have made it impossible for governments to cover up their murderous reactions – in much the same manner as the work of the Zapatista solidarity movement made it impossible for the Mexican government.[28]

Metaphors: Circuits and Networks[29]

Metaphors, like analogies, draw attention to similarities and parallels between quite distinct phenomena, stimulate our imaginations and enrich our understanding. Recognizing one commonality often leads to closer examination and the discovery of others. At the same time, every metaphor has its limits. It doesn't mean they are useless, on the contrary; but it does mean a lot can sometimes be gained by exploring the appropriateness of different metaphors to stimulate our thinking about phenomena that interest us.

While contemplating the electrical circuits illustrating the Toronto conference's webpage and program in 2015, a limitation occurred to me with the concept of circuits as a metaphor for the circulation of our struggles. Certainly, we can identify struggles that circulate along the circuits of capital, nourished by and amplifying the inevitably existing antagonisms, sometimes exploding in visible eruptions. Thus Peter Linebaugh and Marcus Rediker's *Many-Headed Hydra* (2000) showed how capital's international circuits of slavery and trade were turned by sailors and slaves into vehicles for the emergence of an Atlantic working class in the 18th Century. But, that study, as well as the example of the Zapatistas cited above, also show that such *circulation is not always circuitous.* The circuits of capital are closed, in the sense of endlessly (and boringly) always returning to and recreating their points of departure (albeit, when successful, on a larger scale). If our struggles follow similar paths, such returns are probably a sign that they have been contained and harnessed.

Two examples of the problems of struggles being circuitous, or "returning to the point of departure", are easy to identify – one in the sphere of production, one in the sphere of formal electoral politics.

For a long time, waged worker struggles in the United States were irregular and mobilized in response to changing conditions of work, exploitation and alienation. The Wobblies, the Industrial Workers of the World, a radical labor union formed in 1905, recruited members in many industries – mining, textiles, logging, harvesting and so on – and quite

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[27] Dorothy Kidd has surveyed diverse studies of the communication methods employed in the Occupy movement: "Occupy and Social Movement Communication," in Chris Atton (ed.), *Routledge Companion to Alternate and Community Media*, New York: Routledge, 2015, pp. 457-468.

[28] Wikipedia pages on the Arab Spring and "Social Media and the Arab Spring" provide links to a diverse array of reports and studies.

[29] Some of what follows in this and the next section is drawn from Harry Cleaver, "Deep Currents Rising: Notes on the Global Threat to Capitalism", in Werner Bonefeld (ed.), *Subverting the Present, Imagining the Future: Insurrection, Movement, Commons*, New York: Autonomedia, 2007, pp. 127-160. Also reprinted in Savyasaachi and Ravi Kumar, *Social Movements: Transformative Shifts and Turning Points*, New Delhi: Routledge, 2014, pp. 193-235.

consciously refused to sign contracts that would place legal constraints on their ability to strike or take other militant action (Kornbluth, 1988). Their efforts, which periodically ruptured the circuits of capital, were by no means circuitous, being prone to take whatever unpredictable form activists judged necessary. This was undoubtedly one reason why capitalists employed local, state and federal armed force to attack and partially crush them in the 1910s and early 1920s.[30] With workers' successes, a decade or so later, in forming industry-specific unions, such as the United Automobile Workers or the United Mine Workers, class conflicts re-emerged. By that time, however, the agents of capital were more successful. They were able, through purges of radical activists and new labor laws that structured collective bargaining, to impose contracts aimed at regularizing conflicts between workers and management. Under these new arrangements, periods of formal bargaining could include strikes and picketing in which rank & file workers mobilized to pressure their employers. However, once a legal contract was agreed upon between the union bureaucracy and those employers, the union bureaucrats became constrained by law to enforce their own members' compliance with the contract and limit conflict both on and off the shop floor. In this manner, contracts sought to regularize and limit workers' ability to take action on their own behalf. Such regularized legal struggles were circuitous; they surged during negotiations and came to a halt with the signing of a contract. At that point, rank & file workers found themselves back to essentially the same position from which they had started, plus or minus whatever marginal gains or losses resulted from negotiations. This regularization was part of a framework that not only bound workers' struggles within capitalist relationships, but effectively harnessed them to provide dynamism to capital's own development.[31]

The parallel between such temporally structured conflict in the sphere of production and that in the sphere of formal electoral politics should be obvious. Whatever its limitations in efforts to transcend capitalism, electoral politics has been one terrain upon which workers have fought for protections and advantages.[32] From the passage of the Factory Acts in Britain, which Marx analyzed in the mid-19th Century, to that of 20th Century social democratic reforms such as social security, unemployment insurance, occupational safety, health and environmental protections, workers have successfully fought for government programs in their interests. Elections have not been their only method – workers have also pressured the state through petitions, legal actions, demonstrations and uprisings – but electing sympathetic representatives has been one. It has also been a terrain on which, as with labor union contracts, struggles have been largely confined to specific and limited periods. Within representative democracies with legally-specified election cycles, the mobilization of support for candidates more likely to be sympathetic to working class demands is, for the most part, limited to periods of electoral campaigns and to the vote. Once elections have passed, most of those who mobilized return to their everyday occupations and leave legislation and implementation to elected representatives – until the next election cycle. Once again, the legal structure – this time of elections rather than collective bargaining – returns those who have struggled right back where they were before – excluded from participation in any form of direct, collective self-governance.

The parallels between these two closed circuits partly explains how comfortable labor union bureaucrats have been tying the labor movement to the Democratic Party – even when that party's programs and policies have been every bit as neoliberal as those of its erstwhile rival. Never has this been clearer than during those periods when Bill Clinton (and now Hillary) have dominated the party establishment. In these cases, the metaphor of circuit is appropriate enough, but in terms of struggles themselves, it highlights limits of such circularity.

One of the first signs that the Zapatistas rebels in Chiapas would retain their autonomy and truly seek to build alternatives to capitalism was their refusal to be subsumed by the main left-wing opposition party in Mexico – the Partido de la Revolución Democrática (PRD). Almost as soon as a cease-fire ended overt combat and the Zapatistas entered into negotiations with the Mexican government, emissaries of the PRD showed up in Chiapas and tried to recruit them into an alliance. The Zapatistas turned them down flat, and in the years that followed made it clear in communiqué after communiqué that they considered the PRD just one more band of professional politicians, as much an obstacle to indigenous autonomy as the then ruling Partido Revolucionario Institucional (PRI). See, for example, Subcomandante Marcos' 1996 letter to the cultural critic Carlos Monseváis condemning the illusion that the alternation of professional parties in power amounts to democracy and critiquing the role of left-wing intellectuals in contributing to the illusion by peddling the notion of replacing the "bad guys" with the "good guys". Against that illusion, Marcos proposed the Zapatistas' politics of *mandar obedeciendo* (lead by obeying) (Marcos, 1996). The refusal of the Zapatistas to ally with the PRD extended to their refusal to endorse PRD candidates in either local or national elections. The PRD was particularly furious at their refusal to support Andrés Manuel López Obrador in the presidential elections of 2006. Instead, the Zapatistas launched a completely different undertaking – *La Otra Compaña* (The Other Campaign) – in which they toured the country consulting with grassroots groups about ideas for radical direct democracy.[33] In such ways

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[30] It wasn't the only reason; there were also anti-immigrant aspects of the repression and the anti-Bolshevik paranoia behind the Red-Scare of that period.

[31] An important part of this framework were the productivity deals that figured prominently in such contracts. In those deals, workers would accept productivity-raising changes in the organization of production in exchange for a share of the gains from those increases, i.e., higher wages and benefits. Their struggles thus aided capitalist development both by increasing the incentive of their employers to modernize production and by collaborating with technological change.

[32] The long-held social-democratic dream of the working class succeeding in electing representatives who would reform capitalism out of existence has never been realized. On the contrary, even coming close to success has brought violent repression – as in Iran where the government of Prime Minister Mohammad Mosaddegh was overthrown in a CIA organized coup d'état in 1953, or in Guatemala where the CIA organized another coup in 1954, or in Chile where the government of President Salvador Allende was overthrown in 1973 and the man murdered by the US-backed Chilean military.

[33] See Subcomandante Marcos and the Zapatistas, *The Other Campaign – La Otra Compaña: The Zapatista Call for Change from Below*, Bilingual Edition, San Francisco: City Lights, 2006. Also the many reports from the campaign archived on the Chiapas95 website.

did the Zapatistas avoid having their energies diverted into the closed circuit of electoral politics. Instead, those energies have been focused on developing new forms of self-governance within and among their communities and discussing the possibilities of alternatives to capitalist institutions. Those discussions are on-going among a wide variety of grassroots groups.

Such patterns as revealed by temporally circumscribed labor conflicts and statutory elections support the appeal of using the concept of "circuits" to understand certain of our struggles, but the early example of the Wobblies and the more recent example of the Zapatista suggest that is not always the case. Indeed, it is probably more common to find struggles escaping such circuits and circulating – influencing others to act or to augment their existing efforts – in many directions. The history of capitalism is replete with efforts of its opponents to break out of their isolation and form mutually beneficial linkages with others – not just with those engaged in other moments of capital's circuits but often with kindred spirits far afield.

A closely related concept, broader than the metaphor of circuits, which has been employed by many activists – and by academics who study them – is that of *networks*. Whereas activists have employed the term loosely, often describing their efforts to build connections as *networking*, some sociologists and political scientists took the concept over from mathematical graph theory to analyze a wide variety of social relationships. These have included individual behavior, small group interactions, organizational behavior and social movements.[34]

Of particular interest to me has been the metaphor's early imaginative development and deployment in the 1960s by the Marxist sociologist Romano Alquati (1935-2010) in his studies of the struggles of Italian workers.[35] His focus was on factory workers, especially in the huge industrial complexes of Northern Italy, such as the FIAT complex in Torino. There he noted how struggles in one industrial plant often circulated, triggering actions in other plants, leading to a general uprising against the company as a whole. Moreover, he also observed how struggles in key industrial sectors – such as manufacturing where the greatest concentration of factory labor was located – could lead to regional and even international struggles among a wider array of workers. He identified how networked relationships were established between workers in different locations. Their linked activities at "nodal points of connection", through various modes of communication made possible the accumulation and sharing of information to such a degree that actions by some could trigger action by others. He found such connections to be "vertical", in that they articulated working class activity within capitalist circuits of production and reproduction and "horizontal" in that they linked and articulated activity in different areas.

Although Alquati found struggles circulating across the capitalist organization of technology and the division of labor, he also saw how they established and activated new linkages. This enabled a "recomposing" of the class composition of industrial labor (i.e., the dynamics of power both among workers and in their relationships with capital). The workers, he found, were effectively using, but then transforming, the circuits of capital, and in the process, forced changes in capital's own self-organization. Over time, he concluded, the particularities of how capitalists organize technology, the division of labor and its circuits had to be understood as having been shaped by previous conflicts. This centering of workers' struggles was characteristic of the *operaismo* (workerism) current of which Alquati was a member. They discovered capitalist planning and organization to be more dynamic than the "capitalist despotism" that Marx had observed. Plans and strategies were modified in reaction to the circulation of workers' struggles. Alquati identified the central actors in recomposition at that time, as young, first-generation factory workers highly concentrated in Italy's northern industrial zones, although they were often drawn from the agrarian regions of the southern peninsula. They were less disciplined by both company and union management and more prepared to communicate with each other informally in different areas and to challenge authority – including that of older, more established workers. We should understand Alquati's *networks of struggle* not as pathways, but as the communication of information and associated conflicts themselves that could circulate quite outside capital's own circuits.

As I suggested at the beginning, our struggles are really the proper points of departure for our studies and for finding answers to that old question posed first by Nikolay Chernyshevsky (1828-1889) in the 1860s, later by Lenin in 1902, and by revolutionaries ever since: "What is to be done?"[36] However new we may be as individuals to the struggle against capitalism and the search for better alternatives, we always find ourselves inside multiple battlefields of the class war. Identifying them, sorting them out, understanding them and seeing how developments on one terrain may affect others are essential first steps to deciding where our skills and aptitudes can make the most effective contribution. Concepts such as circuits or networks of struggle provide us lenses or templates through which to examine the interrelationships among the conflicts swirling around us.

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[34] Of particular relevance here are: Manuel Castells, *The Rise of the Network Society* and *The Power of Identity*, Vols. I & II of his *The Informational Society: Economy, Society and Culture*, London: Blackwell, 1996 & 1997, Margaret E. Keck and Kathryn Sikkink, *Activists Beyond Borders: Advocacy Networks in International Politics*, Ithaca: Cornell University Press, 1998, Martha McCaughey and Michael D. Ayers, *Cyberactivism: Online Activism in Theory and Practice*, New York: Routledge, 2003, Wim van de Donk, Brian D. Loader, Paul G. Nihon and Dierter Rucht, *Cyberprotest: New Media, citizens and social movements*, New York: Routledge, 2004, Sidney Tarrow, *The New Transnational Activism*, New York: Cambridge University Press, 2005 and Clifford Bob, *The Marketing of Rebellion: Insurgents, Media and International Activism*, New York: Cambridge University Press, 2005.

[35] The summary I provide here is but a sampling of Alquati's complex analysis. See: Romano Alquati, *Sulla FIAT e altri scritti*, Milano: Feltrinelli, 1975. An outline of Alquati's concepts is given in Roman Alquati, "The Network of Struggles in Italy", a set of notes prepared for the Offord Road Discussion group in London in the early 1970s. An analysis of those concepts that situates them within the emergence of the Italian New Left can be found in Steve Wright's *Storming Heaven: Class Composition and Struggle in Italian Autonomist Marxism*, London: Pluto Press, 2002.

[36] Chernyshevsky was a Russian revolutionary whose novel, titled *A Vital Question: What is to be Done?*, written while imprisoned in the Peter and Paul Fortress of St. Petersburg, inspired so many actions by workers, especially young women, that it was quickly banned. It also inspired considerable further reflection among other Russian intellectuals including Dostoevsky, Tolstoy and Lenin – who appropriated Chernyshevsky's title for his own book of 1902. The first, complete, scholarly English translation is available from Cornell University Press.

Because, as noted in the previous section, the degree of antagonism endemic to capitalist social relationships varies from place to place and over time and because the ability of the various functionaries of capital to manage that antagonism also varies, so too does the extent and intensity of conflict. Given equal degrees of antagonism in two different situations, other things held constant, conflicts are likely to be more intense against less effective functionaries where the chances of success are greater. A case can be made that this was the case in Chiapas, where local government was corrupt, inept and unable to grasp the degree of indigenous self-organization unfolding under its nose.

Similarly, where other on-going struggles may provide support, new initiatives or renewed efforts would seem more likely. This was certainly the case in Mexico, where the 1994 Zapatista uprising catalyzed such an explosion of pro-democracy mobilization – including an upsurge in organizing and collaboration among myriad indigenous groups in that country – that hundreds of thousands poured into the streets to stop government military repression of the Zapatistas and impose political negotiations. Reinforced by this outpouring of support, the Zapatistas organized a National Democratic Convention (*Convención Nacional Democrática*) held in the remote community of Guadalupe Tepeyac. A huge space was carved out of the jungle and named Aguascalientes after the place where Emiliano Zapata, Pancho Villa and Venustiano Carranza met during the Mexican Revolution to discuss the formation of a new government. In August, 1994 over 6,000 representatives of grassroots groups, independent intellectuals and even foreign supporters participated in the first national gathering of a new pro-democracy movement – observed and reported by a considerable contingent of reporters. By January 1996, despite a renewed military offensive in February 1995, once again stopped by widespread protests, the Zapatistas were able to convene a National Indigenous Forum (*Foro Nacional Indígena*) that drew nearly five hundred representatives from all over Mexico to discuss the creation of networks or "hammocks" of mutual support.[37] By year's end, those discussions led to the formation of a decentralized National Indigenous Congress (*Congreso Nacional Indígena*, or CNI) dedicated to mobilizing mutual aid among diverse cultural and linguistic indigenous groups. Such organized backup provided support for an intensification of indigenous struggles for autonomy in many areas.

This example of the organization of networks of struggle and mutual aid among indigenous groups in Mexico points to the need for differentiating among struggles in order to understand their interconnections and how they may circulate. In the case of the formation of the CNI, the impetus came from the Zapatista communities that had organized and mobilized an armed force – the Ejército Zapatista de Liberación Nacional (EZLN) – to defend themselves against neoliberal government policies aimed at destroying their communities. The Zapatistas, however, were by no means the only indigenous group to organize resistance to neoliberalism or to earlier capitalist policies. Indeed, a case can be made that indigenous self-organization and assertion of autonomy was more advanced in some other areas, e.g., the state of Oaxaca, than in Chiapas. Everywhere in Mexico there has long been antagonism between indigenous communities, with their histories of non-capitalist ways of organizing themselves – with roots predating the Spanish conquest – and efforts by business and the state to impose capitalist social relations. Where those efforts were pushed harder, the antagonism was greater, but forms of resistance varied considerably. In some areas, resistance was covert, in others, overt. Overt resistance sometimes took the form of legal battles to preserve communal lands, or to demand access to state lands. Sometimes, resistance took the form of armed uprisings; there is a whole history of rebellion in Mexico, both before and after the Mexican Revolution.[38] The particular forms of self-organization varied according to community traditions and modes of decision making and so, therefore, did the forms of their interaction and mutual support in 1996 as they organized their Congress and new networks of interconnection.

For the most part, in the post-revolution era, after 1920, armed uprisings in Mexico were quickly suppressed by state and federal governments as to limit any propensity for them to circulate beyond their initial area of emergence. One key to that containment was the power of the centralized federal government to control the mass media. With the post-WWII spread of commercial television, the vast majority of Mexicans obtained their news from two government-controlled TV networks. The control of Televisa and TV Azteca made it easy for the state to limit and distort information about such rebellions.

In the case of the Zapatista uprising, however, email and webpages provided effective platforms to circulate counter-information rebutting official accounts across the Mexico and the wider world. So effective was that circulation that it nourished such widespread networks of solidarity which stymied government efforts at suppression and forced them to negotiate. As the kinship between the anti-neoliberal stance of the Zapatistas and those of people in other parts of the world became more apparent, solidarity grew and a great many groups drew inspiration and energy from the Zapatista's efforts. Another result, besides the convening of the National Democratic Convention and the formation of the National Indigenous Congress, was the organization of Continental Encounters against Neoliberalism and for Humanity in Europe and the Americas in the Spring of 1996. This was followed by an Intercontinental Encounter in Chiapas in the summer of 1996. It brought together over 3,000 grassroots activists from around the world, took place in five different villages in Chiapas and lasted almost a week.

These encounters (*encuentros*) were organized by the Zapatistas not as tools for spreading their own ideas about organization and struggle but to provide spaces for activists from around the world to share experiences and ideas. Their form was rooted in indigenous communal practices. Unlike many leftwing, often sectarian, gatherings that have been

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[37] The term "hammocks" was preferred by some because Mayan hammocks are made up of a hand-made netting that adjusts to fit individual bodies. Thus the propensity to craft networks of mutual support in ways particular to the specific needs of linked groups.

[38] In the United States, ruling elites have done their best to bury memories of grassroots rebellion, largely reducing the history of the American revolution to the ideas of the "founding fathers". In Mexico, on the contrary, memories of the Mexican Revolution were cultivated as the ideological foundation of the (very counter-revolutionary and pro-capitalist) PRI that ruled Mexico for 71 years (until losing the presidential election in 2000 due to the swelling pro-democracy movement sparked by the Zapatista uprising).

preoccupied with promulgating particular "lines" and "programs" and seeking common "resolutions" that embody them, the Zapatistas merely wanted to nourish exchanges whereby those from different backgrounds could learn from each other and enhance their own abilities. A Second Intercontinental Encounter was held in Spain in 1997 and a Second Continental Encounter in Belem, Brazil in 1999. The World Social Forum that was initiated in 2001 in Brazil, and thereafter has been held annually, can be seen as a kind of institutionalized intercontinental encounter in where activists from around the world meet, share their experiences and discuss alternatives to capitalism.

In the last few years, in the United States, perhaps the most obvious examples of the circulation of struggles have been the Black Lives Matter (BLM) movement and the unexpected outpouring of support across much of the nation for democratic socialist Bernie Sanders' campaign for the presidency. The BLM movement erupted in 2013 in response to the killing of Trayvon Martin and became a nationwide movement in response to police killing of Michael Brown in Ferguson, Missouri and Eric Garner in New York City. Under the banner of hashtag **#BlackLivesMatter**, the movement has spread from the streets and the Internet to college campuses and political rallies in response to racist events and the rise of blatantly racist political campaigns by right-wingers in the US presidential election cycle of 2016.[39] The BLM movement developed quite independently of electoral politics, so despite the way it has sought to influence candidates and elections, from Ferguson to protests at Donald Trump campaign events, it can be expected to continue after the election in the fall of 2016. The support for Bernie Sanders, on the other hand, emerged with a total focus on getting him nominated as the Democratic candidate and on his election to the presidency. One of the most discussed questions surrounding both his actions and those of his followers is this: if he loses either the nomination or the presidential campaign, will the mobilizations mutate into any kind of a movement, or, like most campaigns, dissipate with the closing of the electoral circuit?

Alternative metaphors: rhizomes, swarming and currents

The limits concerning the applicability of the circuits metaphor, made it worthwhile to examine the more open-ended metaphor of networks in thinking about the circulation of our struggles. This also suggests the possible usefulness of other, related metaphors. Networks of struggle, understood in Alquati's sense, are interconnected nodes of working class self-activity, either actively resisting some capitalist initiative or taking the offensive making autonomous demands. There may well be back-and-forth feedback – that creates a kind of closed circuit – but our efforts can also circulate outward like ripples from a stone dropped into a pond. If the pond is society, then another interesting metaphor comes to mind – that of the *rhizome*, where plants such as cattails propagate invisibly in muddy pond bottoms, but repeatedly send up visible plants. Gilles Deleuze (1925-1995) and Félix Guattari (1930-1992) elaborated this metaphor in their book *A Thousand Plateaus* (1980). They juxtaposed the horizontal propagation of rhizomes with more familiar arboreal growth patterns common in trees (where growth takes the form below ground of pivotal taproots sprouting secondary, lateral roots and above ground of a central trunk propagating branches).[40] Deleuze and Guattari's attraction to rhizomes is based on how their character captures de-centered multiplicity, arrays of connections without any central organization. Capital has multiple manifestations but always has a common structure. Rhizomes have no singular form but vary incessantly; in the case of cattails while their visible shoots appear uniform, their underground bulbs and tubers are never the same. They propagate in all direction, defining "lines of flight", growing and spreading into new areas, "deterritorializing" themselves. There is heterogeneity and connections everywhere. "[a] rhizome," they write, "ceaselessly establishes connections between semiotic chains, organizations of power, and circumstances relative to the arts, sciences, and social struggles."[41] Although Deleuze and Guattari identify rhizome characteristics in a wide variety of phenomena, the way they illuminate the interwoven fabric of our struggles is what interests me here. Because cattails – the one other example I have pointed to – can spread until they infest the entire ponds, they are the bane of pond-keepers.

Such also are the nightmares of capitalists – and the dreams of revolutionaries – that, rhizome-like, challenges to capitalism propagate throughout society, bursting forth again and again until they completely transform it. Such fears have been quite clearly formulated by those working for the state. Perhaps best known and most cogent are the works of David Ronfeldt at RAND and his co-author John Arquilla in the late 1990s on "netwars" that identified horizontal structures – among terrorists, criminal cartels and non-violent activists – and called for the US Department of Defense to develop adequate countermeasures. Ronfeldt and Arquilla analyzed a whole series of conflicts, with particular attention to the Zapatista solidary networks in which I was involved.[42] Closely tracking our activities in cyberspace, they cited both my interventions in solidarity listservs, such as Chiapas95, and my own studies.[43] At one point, one of their

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[39] For an interesting analysis of the genesis of BLM, see: Keeanga-Yamahtta Taylor, *From #BlackLivesMatter to Black Liberation*, Chicago: Haymarket Books, 2016.

[40] Gilles Deleuze and Félix Guattari, *Capitalisme et Schizophrénie: Tome 2, Mille Plateaux*, Paris: Editions de Minuit, 1980. In English: Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, Minneapolis: University of Minnesota Press, 1987. The authors organized the writings in this book as a kind of rhizome where sections are all connected but can be read in any order.

[41] The quoted passage is from the English edition, p. 7.

[42] See the following works: John Arquilla and David Ronfeldt, *The Advent of Netwar*, Santa Monica: RAND, 1996. David Ronfeldt, John Arquilla, Graham Fuller and Melissa Fuller, *The Zapatista "Social Netwar" in Mexico*, Prepared for the United States Army under contract No. DASW01-96-C-0004, Santa Monica: The RAND Arroyo Center, 1998. John Arquilla and David Ronfeldt (eds.), *Networks and Netwars: The future of Terror, Crime and Militancy*, Prepared for the Office of the Secretary of Defense under contract DASW01-01-C-0004, National Defense Research Institute, Santa Monica: RAND, 2001.

[43] For some examples, see: my introduction to *Zapatistas! Documents of the New Mexican Revolution*, New York: Autonomedia, 1994, Harry Cleaver, "The Zapatistas and the Electronic Fabric of Struggle" that circulated widely on the Internet in 1995-1996 and was published, in abridged form, in John

colleagues even tried to recruit me to aid in the identification of NGO activities in Chiapas. Around the same period, both myself and another militant active in the networks of Zapatista solidarity were contacted by the editor of a major business weekly hoping to recruit us in the circulation of information to investors relative to "emerging markets", e.g., those in Mexico. [44] Although I rejected both offers, the study of their, and related, work revealed intelligent efforts on the other side of the barricades, so to speak, worthy of careful study by those on our side. Terrorists and drug cartels (a form of capitalist enterprise) were also, increasingly, making use of the same technologies that we were using to attack capitalism and promulgate alternatives. And, the State, following its long-established pattern, was recruiting academic and think-tank intellectuals to try and figure out how to counter our efforts. Reporting on their work to others in our solidarity networks, I suggested that we must study them as they were studying us. Some took heed.

One problem with the application of the concept of "network" to social struggles has been the tendency to think about networks in static terms. Even when the noun network is turned into a verb – networking – it just means building networks or operating through a network with no specification of the dynamics involved. Recognizing patterns of connectivity is good; discovering how connections work dynamically is better.

Addressing precisely this issue, Arquilla and Ronfeldt identified one such dynamic: *swarming*, a phenomenon usually associated with bees, fish or birds. The kind of swarming that interested them, of course, was the convergence of human actors for military or militant action; they defined such convergence as "a deliberately structured, coordinated, strategic way to strike from all directions, by means of a sustainable pulsing of force."(Arquilla and Ronfeldt, 2000: vii) Among the examples they cited were anarchist Mikhail Bakunin's (1814-1876) proposals for "general strikes" and the rapid mobilization of solidarity networks in response to the Mexican governments' moves against the Zapatistas. As these defense contract intellectuals have studied us, we began to study them. In at least two cases, activists pounced upon their analysis for their own purposes. First, hacktivists, whose own "ping" attacks on targeted capitalist websites were cited by Arquilla and Ronfeldt, quickly adopted their adversaries' analysis for their own purposes; their "digital Zapatismo" became "InfoSwarm Systems" (Dominguez et al., 1998). Second, the activist student group Why War? adapted the concept to their own purposes. They wrote,

> Swarming, for the purposes of protesting, can be thought of as the technique of quickly massing a large number of individuals from all directions onto a single position in order to attain a specific goal. There are roughly four different phases in a successful swarm: locate the target, converge, attack, disperse. For these four phases to work correctly they must be synchronized between a diversity of seemingly disconnected individuals. Therefore, there must be a layer of instantaneous communication between these individuals.[45]

The essay went on to offer some analysis of how swarming can be facilitated by protestors using cell-phones and text-messaging.

Focus on swarming has found other advocates as well – on both sides of the barricades. On the dark side, ex-Airforce intelligence officer Jeff Vail has a discussion of "Swarming, Open-Source Warfare and the Black Block" on his website and according to a report in the online magazine *Mute*, the Israeli military has appropriated the idea for its own operations (Weizman, 2006; Nunes, 2014). On the other side, the P2P Foundation (that links to both of the above) has a wiki page on swarming and Brian Holmes, writing in the autonomist journal *Multitudes* (Paris), discusses both the attractions and limitations of the concept.[46] Like the rhizome that may propagate slowly, out of sight, to erupt surprisingly where none had been seen before, the metaphor of swarming captures one kind of movement through networks. But in this case, the movement always involves a rapid, focused convergence. While perhaps an illuminating metaphor for things like protests, it hardly captures the great variety of movements characteristic of the development and circulation of our struggles, often across vast spaces and at greatly varying velocities.

As an alternative metaphor that better grasps, in my view, the complex, sometimes hidden, sometimes visible and disruptive but always dynamic characteristics of the circulation of our struggles, I have suggested that of *ocean currents*, most of which circulate below the surface, out of sight. Like our efforts, currents are masses in motion, not homogenous masses, but complex, heterogeneous, moving ecologies of differentiated, more or less agitated water molecules and myriad forms of life that thrive and perish amidst them. Warmer, more visible surface currents often move faster; less visible, deeper, colder ones move slowly, but move they do, rich with nutrients and vast, largely unknown life. When currents enter polar regions, they get colder, denser and either sink or freeze. When water does freeze, it crystallizes into rigidity, as do our strivings when we form organizations with fixed structures, rules, platforms and patterns of behavior. But most ice, like organizations, eventually melts again, sometimes quickly, sometimes slowly. Melting involves undoing one molecular form and returning to a process of dynamic and diverse self-organizing that refusing, for the time being, crystallization. But just as currents, of varying directions and power, can be observed and tracked, so may we, if we pay close enough attention, observe and track what Guattari might appropriately call the molecular struggles of those who have escaped organizational rigidities.

Holloway and Eloína Peláez (eds.), *Zapatista! Reinventing Revolution in Mexico*, London: Pluto Press, 1998, and Harry Cleaver, "The Zapatista Effect: The Internet and the Rise of an Alternative Political Fabric", *Journal of International Affairs*, Vol. 51, No. 2, Spring 1998, pp. 621-640.

[44] Thankfully, every one of such efforts at recruitment that I am aware of was turned down.

[45] From "Swarming and the Future of Protest" a discussion by the group Why War? at Swathmore College. Neither the group's webpage, nor the statement seem to be currently available on the web. One page, preserved at charlesrehn.com, provides an example of the group's activities. "Targeting Diebold with Electronic Civil Disobedience" focuses on protesting the use of vulnerable Diebold voting machines that some thought were used to flip votes from Democratic to Republican candidates.

[46] P2Pfoundation.net/Swarming and Brian Holmes, "Network, swarm, microstructure", *Multitudes*.

There is a certain kind of power in rigidity – frozen seas block ships, an iceberg sank the Titanic, the Bolsheviks did seize power in October 1917, as did the Chinese Communist Party in 1949, the Cuban revolutionaries in 1959, the Vietnamese Communist Party in 1975 and the Sandinistas in 1979. But in every case, the "freezing" almost immediately began to melt, first imperceptibly, then faster as the dedication of the new regimes to "socialist accumulation" began to recreate the structures of capitalism. The more they put people back to work, in new state-controlled forms, the more resistance spread. The suppression of autonomous activity and the rise of police-state methods measured that resistance and the desperation of those who had seized power as they tried to hang on to it.

More typical, I think, are the ways ocean currents, from time to time, generate giant "gyres" or circular movements that pile up water in "mounds" whose surfaces rise above that of the nearby ocean. Looser, more complex than swarms, such dynamic concentrations of water nevertheless stand out from more calmly moving waters. Or, more dramatically still, crosscurrents may interact to form killer "rogue waves", mini-tsunami's capable of destroying and sinking huge ships – or, in terms of our struggles, unexpected but massive disruptions capable of throwing capital into crisis (Cleaver, 2007). The central city uprisings of the 1960s and the widespread food riots in response to IMF imposed austerity since the 1980s come to mind.

Beyond the circulation of struggles that disrupt capitalist circuits and plunge the system into crisis are those more positive efforts that escape from capitalist structures of control and domination to create something new. As moving, living ecologies, currents have much in common with the circulation of creative autonomous struggles that innovate and circulate new forms of life against the stasis and death inherent in capitalist circuits.[47] Ocean currents are vital elements in the cultivation and redistribution of sea-life as they carry nutrients from place to place and facilitate the migratory travels of sea creatures who, like struggling human migrants and immigrants, violate state boundaries in their search to live and thrive. Some of the more interesting metaphors evoking such violations and escapes from capitalist imposed boundaries are Deleuze and Guattari's concepts of *lines of flight* and *deterritorialization* mentioned earlier.[48] These notions nourished the metaphor of *exodus,* a characteristic claimed for the struggles of Hardt and Negri's multitude (Hardt and Negri, 2000, 2004, 2009). But, they also bring to mind earlier historical flights, such as those of slaves to form maroon colonies, of sailors into piracy, of immigrant pioneers into the frontier, or of escapees from the failed revolutions of 1848 who fled to American West,[49] or of the hippies and radical activists of the 1960s who also moved into urban or rural communes. There, work by some (both unwaged and waged) made possible experimentation with new kinds of social relationships or political interventions by others. Such working-to-live, instead of living-to-work not only sought to escape the domination of lives by work, but made possible its realization as one mode of self-valorization. It is also evocative of contemporary migrations in which individuals and families cross nation-state boundaries (thus defying capitalist attempts at control and regulation) to seek out new opportunities in new situations for building new lives. The existence of desperate refugees fleeing the civil war in Syria or death squads in Central America should not blind us to the more common phenomenon of people autonomously on the move based on their evaluations of their life chances in one area as opposed to another.

Such struggles of escape and exodus can also circulate, just like those directly aimed at rupturing the circuits of capitalist valorization/control. The formation of viable maroon colonies encouraged others to flee slavery. The success of some pirates in forming autonomous, quasi-communist communities inspired other sailors to mutiny against their own exploitation within the international circuits of capitalist trade in both commodities and humans (Rediker, 1987, 2004, 2015). The success of immigrant pioneers, fleeing repression and capitalist exploitation in urban centers, into what appeared to them as open, unused frontier lands inspired the westward expansion in North America from the earliest days of European colonization. From the flatboats that navigated rivers of what we now call the Midwest to the collective wagon trains that followed one another out of frontier cities such as Fort Smith, Arkansas, into the Great Plains and eventually into the Rocky Mountains to found new communities built through mutual aid, e.g., house and barn raising, a common theme emerges. Such pioneers achieved – at least for a while – independence from the capitalist forces dominating the cities they left behind.[50] Although they brought many of their old ways with them, they also adapted and changed within the new frontier conditions. That capitalists moved to shorten their time of freedom, often with huge state subsidies, such as railroad land grants, should not obscure how they chose the dangers of the unknown to build new lives. This remains true even when we remember that from the point of view of Native Americans those lines of flight and deterritorialization amounted to invasion, enclosure, genocide and ultimately their own forced reterritorialization onto reservations. One of the most valuable lessons of the historical experience of the frontier for anti-capitalist activists should be, I think, realization of how the circulation of struggle often involves conflict among those who may be resisting capitalism and trying to construct something else. Complementarity among struggles is never automatic; Alquati's nodal points of connection must be constructed.

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[47] It was with sharp reason that Marx juxtaposed living labor to the dead labor embalmed in machinery, commodities and money. Whether enslaving human activity into labor-for-capital directly in production or in confining the vivacity of human life within the constraints of labor power, or harnessing workers' struggles to drive its own development capital always seeks to reduce new life forms to its own frozen moments of control.

[48] They elaborate these concepts in their book *A Thousand Plateaus, op. cit*.

[49] One particularly striking example of such flight and creative efforts to build better worlds is that of many Germans who, after 1848, fled their country and immigrated to Texas where they founded several utopian communities. Rumor has it that Paul Lafargue tried to talk Marx into immigrating. We can only guess how his ideas might have evolved differently had he joined that exodus. See: Ernest G. Fischer, *Marxists and Utopias in Texas: The Lone Star State's Pioneer Flirtation with Socialism-Communism*, Burnet: Eakin Press, 1980.

[50] For a discussion of parallels between the creation of the Western Frontier by such migrants and the creation of cyberspacial frontiers, see: Harry Cleaver, "The 'Space' of Cyberspace: Body Politics, Frontiers and Enclosures", *Women and Performance: A Journal of Feminist Theory*, Volume 9, No. 17, 1996, pp. 239-247.

Conclusion

The primary implication that I draw from what I have sketched is how revolutionary struggle must involve not only the rupture of the circuits of capital but escape from them through both their destruction and the creation of alternative social relationships. Doing so certainly requires recognizing the patterns of those circuits as well as their content – the endless imposition of work and the subordination of life to work. But such recognition is only meaningful if it informs rupture and creation. Marx's work has provided us with tools for understanding capital's circuits that reveal where they can be ruptured and what is required to rupture them. Although his theory offered no utopian blueprints, it does aid in crafting alternatives to capitalism. By helping us understand what we do not want – what so many battles have been fought against – it can help us avoid crafting "new" ways that are only mirror images of what we are trying to escape. Had Russian revolutionaries recognized this, they might have avoided trying to organize a new society in ways that replicated so many structures of the old. Perhaps Lenin would never have argued for the introduction of Taylorism into Soviet manufacturing (Lenin, 1918). Perhaps the economist Evgenii Preobrazhensky (1886-1937) might have never finished his essay on "socialist primitive accumulation", recognizing as Marx had, years before, that the peasant *mir* might provide the "fulcrum for the social regeneration of Russia" rather than something to be wiped out and replaced by collective and state farms whose management was dedicated to extracting the maximum surplus value.[51] Perhaps Mao Tse-tung (1893-1976) would have accepted the embrace by revolutionary Chinese peasants of the old communist slogan "From each according to their ability, to each according to their needs" instead of passing the Wuchang Resolution of 1958 that revoked payment according to need and established payment according to work (Wheelright and MacFarlane, 1970: 50). Perhaps all of them, and their comrades, might have even recognized how economics was developed for the purpose of providing the tools necessary to repair and promulgate the circuits of capital – and has continue to do so ever since. Recognizing that, perhaps they might have sought not only alternatives to capitalist circuits but alternatives to economics as a way of thinking about truly different social forms of organization. That they did not recognize these things poisoned their project from the get-go and opened the way for building socialisms that were nothing more than new forms of state capitalism. What *they* did not do, *we* can. We can escape from economics as an essential moment of escaping from capitalism and develop a new vocabulary to talk about the truly new kinds of social relationships that we craft.

One start in this direction began with the search by "deep ecologists" for alternatives to the capitalist instrumentalization of nature as just a mass of resources to be exploited by humans.[52] Their approach was to explore a wide range of other cultural views that grasp our species within, rather than above, all others. This they did as a means to developing a biocentrist perspective to replace the anthropocentrism of the Judeo-Christian-Islamic tradition. Another start began with a week-long discussion, in the fall of 1988 at State College in Pennsylvania, organized by Gustavo Esteva and Ivan Illich, of why we should avoid a whole series of existing concepts in thinking and talking about the kinds of worlds we want to craft. The result was a collection of essays on a set of nineteen specific concepts. The initial title for the collection was "A Dictionary of Toxic Words"; the final title was *The Development Dictionary: A Guide to Knowledge as Power* (Sachs, 1992). Among the concepts to be set aside were "market", "resources" and "planning". My contribution was an essay on why we should abandon the concept of "socialism". Were we to convene another such meeting, I would argue for the abandonment of such basic concepts as "work", "production", and "consumption" – indeed of pretty much the entire vocabulary of economics, tainted as it is by having been developed historically for capitalist purposes. As I have argued elsewhere, we need new vocabularies for new worlds, vocabularies that we can only develop as we elaborate truly alternative ways of organizing ourselves in relation to each other and to the rest of the planet (Cleaver, 2002: 135-148). Given both the inevitability and indeed the desirability of exploring and elaborating many different kinds of new worlds, we seem unlikely to transcend politics – understood as the confrontation and negotiation of differences – so, perhaps, there will continue to be identifiable pathways through which struggles and negotiations circulate. Hopefully, we will be able to construct them in ways that facilitate the greatest possible freedom, while minimizing the likelihood of new forms of hierarchy and domination being created.

March 27, 2016
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Author Bio

Harry Cleaver attained a B.A. from Antioch College and a PhD from Stanford University. He has taught at l'Université de Sherbrooke, Quebec (1971-74), the New School for Social Research (1974-76) and the University of Texas at Austin (1976-2012). He was involved in the Civil Rights, anti-Vietnam War and anti-Gulf War movements, as well as Zapatista solidarity work. He has taught economics, Marxism, history of economic thought, political economy of education, and the political economy of international crisis. He is an ex-editor of Zerowork and is the author of *Reading Capital Politically* (1978, 2002).

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[51] See Marx's March 8, 1881 letter to Vera Zasulich in Karl Marx Frederick Engels *Collected Works*, Vol. 46, New York: International Publishers 1992, pp. 71-72 and the discussions in Teodore Shanin (ed.) *Late Marx and the Russian Road: Marx and the Peripheries of Capitalism*, New York: Monthly Review Press, 1983.

[52] See, for example, the materials gathered in Bill Devall and George Sessions, *Deep Ecology: Living as if Nature Mattered*, Layton (Utah): Gibbs Smith, 2001.

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