

PERSPECTIVE

With a Different Marx: Value and the Contradictions of Web 2.0 Capitalism

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This perspective examines the source of value in Web 2.0 enterprises such as Facebook and Google by analyzing the advertising model that supplies the bulk of their revenues. Drawing on Marx’s understanding of the circulation of value within the capitalist economy as a whole and his concepts of unproductive labor, subsumption of labor, costs of circulation, commercial capital, and primitive accumulation, we analyze the economic relationships of Web 2.0 capital, proposing that revenues from advertising come from value produced in non-Web 2.0 sectors of the economy. On this basis we critique both Fuchs’s and Arvidsson and Colleoni’s positions on the origin of value in Web 2.0 and recognize some of the difficulties and contradictions of the advertising model as a form of monetization of free services for Web 2.0 capital.

Keywords advertising, Marx, productive and unproductive labor, value theory, Web 2.0

The emergence of large-scale mass Internet platforms, free to use, such as Google, Twitter, YouTube, and Facebook, has led to a debate about the origin of value in these enterprises. Web 2.0 capitalists and critical Internet theorists alike have asked the same questions: Just how is it possible to make a pile of money by providing free services? How can a nonpaying sphere coexist with a capitalist enterprise? This perspective examines these questions by analyzing the advertising model that has come to dominate the income of dominant Web 2.0 companies, accounting for 95% of Google’s and 85% of Facebook’s revenues in 2012. By discussing the economic relationships and flows of value in Web 2.0 capitalism in this context, we aim to take the debate initiated

by Fuchs (2010) and Arvidsson and Colleoni (2012) further by demonstrating the value of a theoretical framework that draws on Marx’s writings on the circulation of capital and his concepts of unproductive labor, subsumption of labor, costs of circulation, commercial capital, and primitive accumulation.

This perspective therefore remains “With Marx” (Fuchs 2012a) but with a rather different aspect of Marx’s economic writings from that proposed by Fuchs. Both Fuchs (2010) and Arvidsson and Colleoni (2012) start from the position that a Marxist analysis of Web 2.0 is essentially about the labor theory of value and the creation of surplus value through exploitation in the process of production. While this is indeed the cornerstone of Marxist political economy, this perspective proposes that concepts found in the second and third volumes of *Capital* (Marx 1978; 1981), where Marx aimed to give a picture of the workings of capitalism as a whole, integrating production with the circulation of capital and its distribution between different capitals, are more appropriate for understanding the economic relationships and flows of value in Web 2.0 capitals as advertising forms part of the process of the circulation of capital (Arriaga 1984; Fuchs 2011a).

These Web 2.0 capitals are not based on independent and self-sustaining value creation. Their dependence on advertising means that they depend on consuming value produced elsewhere in the economy. While we acknowledge the role of unpaid labor in Web 2.0 capital, attributing it to direct appropriation of user content, it is the relationships with other capitals together with the loyalty of their users that are crucial factors in their ability to accumulate capital. This enables us to point to some of the contradictions in the typical Web 2.0 model of accumulation.

This perspective rejects Fuchs’s position (2010, 191) that all processes necessary for the accumulation of

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Received August 18, 2013; accepted March 24, 2014.

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capital are value creating and thus that all users of Web 2.0 platforms are productive workers in Marx's sense of producing surplus value. However, the author shares his political conclusion that the drives of capital distort and devalue the potential social benefits of the Internet and the socially useful services provided by firms such as Google, together with many of his criticisms of Arvidsson and Colleoni's subjective and finance-based theory of value and his defense of the labor theory of value. Accordingly, this perspective also rejects Arvidsson and Colleoni's view that the market valuation of "affective investments" by financial capital provides the basis for the creation of value and that advertising revenues are secondary to Web 2.0 capital. While financial markets can serve as a source of investment and personal enrichment, the increased detachment of market valuation from the underlying value relationships does not provide the basis for a stabilization of value but rather is a source of instability and crisis.

The perspective begins by outlining the concepts on which this analysis is based, which are then applied to Google and Facebook. On this basis we critique both Fuchs's and Arvidsson and Colleoni's positions on the origin of value in Web 2.0. The final section demonstrates its value in discussing something missing from both their analyses: the problems, actual and potential, of the Web 2.0 model of capital accumulation as reflected in such examples as the decline of MySpace and the uncertain effectiveness of Internet advertising. It ends by briefly discussing the strategies of Web 2.0 firms to overcome them: user tie-in, monopolization, diversification, and alternative models of monetisation.

MARX REVISITED

The aspects of Marx we consider central to an analysis of Web 2.0 capital are the relationship between forms of labor and the production of value and between production and circulation; the specific role of commercial capital; and the possibility of direct appropriation as an alternative to value-producing exploitation as a mechanism of capital accumulation.

Forms of Labor and the Production of Value

For Marx, the expenditure of labor time is the sole source of value but not all labor creates value. Most fundamentally, value-producing labor must be labor for capital in that it must occur within a given circuit of capital and be subject to the control of capital. Labor may be both socially useful and absolutely essential to the overall process of capital accumulation but not itself produce surplus value.

For Marx, there are two types of labor that are not productive of value: those that are not subsumed by capital and take place outside the direct process of capital accumulation (which we call non-subsumed labor) and those taking place within it but in functions unproductive of value (what Marx calls unproductive labor). The distinction between productive and unproductive labor¹ is not based on the nature of the activity or product, the difference between goods and services, or whether the result of production takes the form of a material object: "the designation of labor as *productive labor* has absolutely nothing to do with the *determinate content* of the labor, its special utility, or the particular use-value in which it manifests itself. *The same* kind of labor may be *productive* or *unproductive*" (Marx 1987, 401, emphasis in original). Rather, based on the economic relationship of labor to capital, the most basic aspect of productive labor is that it should produce surplus value and thus contribute to the self-valorization of capital (Marx 1976, 644). This depends in turn on productive labor having a direct relationship to capital—typically but not exclusively one of wage labor—and on it being subsumed to capital, that is, its labor process being under control of capital. Without the latter condition capital has no control over what is produced.

Marx makes this distinction clear in a famous passage that occurs in two places in his writings (1976, 1044; 1987, 401):

Milton, who wrote *Paradise Lost* for five pounds, was an unproductive labourer. On the other hand, the writer who turns out stuff for his publisher in factory style, is a productive labourer. Milton produced *Paradise Lost* for the same reason that a silk worm produces silk. It was an activity of his nature. Later he sold the product for £5 and thus became a merchant. But the literary proletariat of Leipzig, who fabricates books . . . under the direction of his publisher, is a productive labourer; for his product is from the outset subsumed under capital, and comes into being only for the purpose of increasing that capital.

Marx, using the example of an informational product, distinguishes between autonomous labor undertaken for the laborer's own ends, the labor of a petty producer who takes on the functions of a merchant when he or she puts the product on the market, and "*productive workers*, workers directly exploited by capital and *subordinated* to its process of production and expansion" (1976, 1040, emphasis in original).

Marx also adds a number of further criteria to distinguish productive and unproductive labor. In the circuit of capital from money to more money (M-C-P-C'-M' where M = money, C = commodities, and P = the production process) only P produces value. The other transformations from M-C and C'-M' are concerned with buying of means of production and labor power and the selling of a

finished product, respectively. It is a necessary consequence of the labor theory of value that buying and selling cannot themselves create value but only transfer it:

The costs which we are considering here are those of buying and selling. We have already noted earlier that these resolve themselves into accounting, book-keeping, *marketing*, correspondence, etc. . . . All these costs are not incurred in producing the commodities' use-value, but rather in realising their value. They are pure costs of circulation. They do not enter into the immediate production process, but they do come into the process of circulation and hence into the overall process of reproduction. (Marx 1981, 402, my emphasis)

It is in the interest of the capitalist to minimize these costs, which represent a deduction from the value produced.

Commercial Capital

The costs of selling or circulation ($C'-M'$) are a necessary cost to the capitalist because at this stage the capitalist still has to complete the transformation back to the money form, which is needed to realize the value of the commodities and begin the cycle again. It is in the interests of the productive capitalists to realize the produced surplus value as quickly as possible in order to increase the turnover rate of their capital (and thus produce more surplus value in a given time) and to avoid being left with unsold goods. Thus, they will be willing to deduct a portion of the goods' value in selling them to a merchant who is left to complete the transformation of the commodities into money. This share is limited by the surplus value produced and the need for the productive capitalist to earn a profit too.² This leads to the establishment of an independent commercial capital concerned with selling, which alters neither the purpose of this function ($C'-M'$) nor its unproductive nature (Marx 1981, chap. 16).

Specialization between the functions of commercial capital (e.g., the development of an advertising industry or commercial media) also does not affect either the share of value available, which is determined by productive capital, nor its ultimate function in realizing value, but merely its distribution between different functions. Advertising is therefore part of the unproductive functions of selling and, whoever undertakes it, is paid out of value produced in productive functions. It cannot stand on its own as an independent source of value as it is merely a means to the end of realising surplus value (Marx 1981, 392).

Direct Appropriation

Exploitation of wage labor is not the only way in which capital accumulation can take place. In his analysis of the origins of capitalism, Marx points to the role of direct

appropriation of the wealth of independent producers backed by law and coercion. This does not disappear in the course of the development of capitalism. A number of authors (Böhm and Land 2012; Harvey 2005; Ekman 2012; Perelman 1998) have noted the increased importance of this in contemporary capitalism. It applies particularly with information and knowledge where material produced autonomously becomes a commodity through enclosure by legal means resting on ownership of the means of reproduction (as with academic journals). In this way, the products of autonomous and non-subsumed labor on Web 2.0 platforms can become a source of value for that capital without being subject to its control of what or how labor is carried out.

CAPITAL ACCUMULATION THROUGH WEB 2.0 PLATFORMS

User Data and the Source of Value

Web 2.0 platforms therefore act as a mediating channel between advertisers seeking to realize surplus value and users attracted by the use value of the free services. They effectively levy a charge on advertisers' surplus value for improving and accelerating their ability to make sales. This, a direct transfer of value from advertisers to Google, Facebook, and similar platforms, rather than the creation of new value, is the origin of the revenues of Web 2.0 capital. Thus, far from being "relatively autonomous capital accumulation processes" (Fuchs 2012b, 718), Web 2.0 capital's is directly dependent on that of its advertisers.

One consequence is that no value-producing activity has to take place on Web 2.0 platforms for it to be possible for Google and Facebook to make the overwhelming bulk of their revenue. What then do advertisers buy and what is the role of the user data created by the surveillance of online user activity? From the advertiser's viewpoint, they are buying access to a potential market that may or may not result in sales.³ This requires, as a prerequisite, users to spend time on particular Web 2.0 platforms, and the opportunities to present advertising are directly related to the amount of time spent on them. However, this is not itself productive of value for them as this time is not an expenditure of labor time for Web 2.0 capital.

The user data collected by Google, Facebook, and others serves not as an independent store of value, that is, user labor time in commodity form, but rather to reduce advertisers' costs of circulation by enabling more accurate targeting of advertising, disaggregation of advertising expenditure into smaller, more easily affordable chunks, and access to smaller or niche markets. Functionally, it may be seen to play a role analogous to

traditional market research in aiming to provide the basis for a more precise relationship between the seller and the market. Thus, Google's Adwords program ties the content of advertisements to user searching goals through the use of keywords, sets no minimum budget, and uses pay-per-click charging to more closely relate expenditure to potential sales (Vise and Malseed 2008). The role of the data is to reduce costs and increase the effectiveness of advertising, not to be sold as a commodity in its own right.

The degree of reduction of the costs of circulation is not measurable in terms of user labor time on Web 2.0 platforms but rather in terms of the increased effectiveness of the advertising in enabling sales. This, together with the quantity of value produced in the advertiser's circuit of capital that is available for the purpose, determines what the advertiser is prepared to pay.

These user data are in any case not a product of users' labor. They come from what Rey (2013) calls "incidental productivity" or "ambient production . . . an environment in which production simply occurs as a result of one's mere presence" and where users do not consciously participate in creating the data traces that reflect their activity which is a product of surveillance software. This makes it distinct from other forms of content that may be created by users on these platforms. The notion that users "work for" Google and Facebook in producing it is then at best a misleading metaphor.

Prosumer Labor and Direct Appropriation

How then is user activity or work on Web 2.0 platforms related to the accumulation of capital? To analyze the relationship between these and user labor, we return to Marx's typology of labor, namely, autonomous labor, small-scale commodity production, and labor for capital where the worker's labor is subject to subsumption by capital. We also differentiate in this last category workers whose labor is directly subsumed by Web 2.0 capital (those directly employed by Google and Facebook) and those whose labor is labor for non-Web 2.0 capital (those using the services but employed directly by other sectors of capital). We shall say no more about the directly employed group as it is small and not significant for this discussion. Each of the other three groups can be found among the users of Web 2.0 platforms: users who use services in pursuit of "an activity of [their] nature" and are in control of their own activity; users such as bloggers or journalists who seek either to produce material for sale or to earn money by displaying ads from Google on their sites; and workers for non-Web 2.0 capital who may use the services on behalf of their employers.

What these three groups share is that their labor is not subsumed by Web 2.0 capital, which does not have the

ability to dispose of their labor time. The platforms have no generalized control over what users do, how often or how long they use the platform, or any reliable hold on their continued loyalty. In this sense, users are autonomous and, in terms of value production, outside the Web 2.0 circuit of capital.

This absence of direct control over the product of autonomous labor by means of labor contract necessitates the use of forms of direct appropriation to be able to exploit user-generated content in the process of accumulation. There are legal and technological aspects to this, both related to the need for users to communicate via a particular software platform. The "legal system . . . allows for the circulation of information from users to commercial entities" by enforcing giving up of property rights to the content as a condition of having access to the platform. (Langlois et al. 2013) This is implemented either through the explicit agreement that users have to sign to register on a platform or through less visible "terms of service," taken to be accepted as a consequence of use of services such as Google Search. The users do not necessarily have to give up their own rights or copyright in the content but rather have to share them in a way that both precludes their own sole use of the content, thus rendering copyright impotent, and gives the platform its own rights to the content (American Society of Media Photographers 2013). This appropriation is thus not necessarily an attack on material already part of the Commons but on the creator's right to control its use or be paid for it.

The technological aspect, embodied in the software and protocols of Web 2.0 platforms, does not merely implement the appropriation of content. It enables the display of advertising alongside this content and the control of these users by means of changing what is possible or permissible using the platform. This can be enforced by sanctions against individual users.

In terms of value production, direct appropriation gives the platform the possibility of either using the content as a commodity itself or using it as a means to attract users to a site where they can be exposed to advertising or as a competitive weapon to ensure rivals cannot gain sole access (McDonald 2009). The precise contribution of user-generated content to profits is difficult to estimate, as it is usually hidden. However, for the major Web 2.0 platforms, it remains dwarfed by that of advertising, while providing an alternative means of accumulation.

VALUE—EVERYWHERE AND NOWHERE

In analyzing the contributions of Fuchs and Arvidsson and Colleoni, we focus on their contrasting analyses of the origin of value in Web 2.0 capitalism.

For Fuchs, value production is all-pervasive: “The production of surplus value and hence exploitation is not limited to wage-labor, but reaches society as a whole” (2010, 188). The key concept underlying Fuchs’s expansive definition of value production is given by the much-repeated sentence that “If Internet users become productive web 2.0 prosumers, then in terms of Marxian class theory this means that they become productive laborers, who produce surplus value and are exploited by capital because for Marx productive labor generates surplus value” (2011b, 10). Thus, “the users of Facebook” become “part of the proletariat”(2012a, 634) and Google “exploits all users who create World Wide Web content” (2012c, 43), as it is necessary to Google’s survival.

From the viewpoint of class analysis, this extends the Multitude to include almost everyone—or at least everyone with an Internet connection—and blurs any meaningful class distinctions. Fuchs acknowledges that this means that “there is no clear-cut separation between the multitude and the capitalist class” (2010, 189), which must surely lead to a questioning of the purpose of class analysis. Arvidsson and Colleoni’s assertion (2012, 138) that the theory of the Multitude conflicts with class analysis is thus confirmed. This is a consequence of trying to combine Autonomist theory with a more traditional Marxist political economy.

The “post-workerist” strand of Autonomist theory explicitly rejects the distinction between productive and unproductive labor and claims that in contemporary capitalism value is not measurable and the Labor Theory of Value has therefore ceased to apply (Hardt and Negri 2000, 28–29, 402; Virno n.d.). Underlying this is the belief that capitalism benefits from all forms of labor in the same way and that it dominates all aspects of life. Fuchs adopts the “post-workerist” concept of the Multitude, rooted in this analysis, while maintaining support for the Labor Theory of Value. This leads him to the inconsistent conclusion that all labor in capitalism produces value and thus that non-subsumed labor and unproductive labor do not exist even though they can be shown to be a necessary consequence of the Labor Theory of Value (Mohun 1996).

Fuchs, following Smythe’s (1977) creation of an “audience commodity” to explain television advertising, proposes the existence of the “Internet prosumer commodity” to explain how Web 2.0 platforms accumulate capital by selling advertising. Trying to find a time measure that corresponds to the value of the Prosumer commodity in line with the Labor Theory of Value, Fuchs argues that “all time spent online” (2010, 191) is productive because it generates user data and that the value is realized when advertising is displayed and the data supposedly sold. However, following Marx’s analysis of commercial capital, what advertisers are prepared

to pay has no direct relationship to the amount of time users spend online or the supposed value of the user data, but rather the share of value produced available for the purpose and some estimate of the improved likelihood of realizing surplus value. As Arvidsson and Colleoni point out, Fuchs fails to find a convincing time measure that can explain the value of the Prosumer commodity. The reason, however, is not that value no longer has any relation to time but rather that the Prosumer commodity is an attempt to explain exchange relationships that are determined by other means and its value is thus an artificial construct.

In contrast, for Arvidsson and Colleoni value production is rather illusive and finally reflected “where the values of companies and their intangible assets are set not in relation to an objective measurement . . . but in relation to their ability to attract and aggregate various kinds of affective investments” (2012, 142). Value is a matter of convention “that can ground decisions about [the value of an asset] in the absence of precise measurements” (2012, 146). Arvidsson and Colleoni rightly emphasize the contemporary importance of financial capital, its ability to claim to embody value and to create conventions to bolster its own subjective assessments. However, if the assessments of financial markets are not rooted in the underlying value relationships in the “real” economy, the consequences are the creation of “fictitious capital” and ultimately a crash, as the assets are shown to have little or no market value. The adjustment comes through economic crisis, which destroys both real and fictitious values as recent years have shown.

Arvidsson and Colleoni believe in contrast that a stable basis for valuation may be reached through “affective investments” expressed through some form of user engagement. Valuations based on attempts to quantify affective categories are either linked to other factors that do have a direct impact on the financial strength of a firm, such as sales, reflecting a commitment backed by money, or they just stand on their own and demonstrate nothing much. Indications that users have some form of loyalty to a brand is of little use on its own; recent years have seen the demise of many well-loved brands. If nominal attachments are then taken as a basis for a market valuation, then far from being a way for financial valuations to stabilize on the basis of a new law of value, they could create a new instability and crises to come in the system.

THE CONTRADICTIONS OF WEB 2.0 CAPITAL

Our analysis enables us to see a double dependency of Web 2.0 capital as an intermediary between other sectors of capital, which as advertisers are the source of its

revenues, and users of free services who both enable this transfer of value by acting as a potential market for advertisers and producing content that may either be directly appropriated or serve as a means of attracting other users. This together with a lack of control over user labor renders the advertising model more fragile than in either Fuchs's or Arvidsson and Colleoni's models. Though both acknowledge in passing the possibility that the value created in their models may not be turned into profit, neither integrates the problematic aspects of Web 2.0 capital accumulation into them. Instead, we are left with the impression that they are sustainable and smooth.

We now outline a few problematic aspects of the advertising model as a channel for capital accumulation and some of the responses of Web 2.0 platforms to them. (That many of these issues are of concern to Web 2.0 capital can be seen by Facebook's list of "risk factors" in its 2013 filing with the Securities and Exchange Commission [Facebook Inc. 2013]).

User and Advertiser Loyalty

A precondition of advertising revenues is the maintenance of a base of active users who cannot be prevented from transferring their activity and online presence elsewhere. While the creation of a critical mass of users does make it more difficult for individuals to move and entrenches market positions, there is no guarantee against the large-scale erosion of popularity of particular platforms, as the case of MySpace shows (Gillette 2011). This may already be beginning with Facebook (Garside 2013). One possible threat is a degraded user experience as a result of the pervasiveness or lack of relevance of ads. Others include concerns related to privacy, safety, security, or other factors, policies or procedures that are perceived negatively by users, which have in the past resulted in user revolts.

The key factor here is that users are not just constrained by the needs and drives of Web 2.0 capital but possess a degree of autonomy that enables them to contest or damage them. This corresponds to an overall picture of the Internet as a contested space where "there is an absolute limit on social media platforms' capacity to control communication" (Hands 2013, 15), albeit a space ultimately and in many different ways under the control of capital.

The existence of a strong user base is only one factor in determining the overall cost-effectiveness of advertising on which its demand depends. The Facebook corporation (Facebook Inc. 2013) comments: "Marketers will not continue to do business with us if they do not believe that their investment in advertising with us will generate a competitive return relative to other alternatives." Web

2.0 platforms face competition from each other and other forms of advertising in a context where the relative effectiveness of Internet advertising is doubted by many (Baker 2012). It is possible that with an expansion in the supply of advertising spaces at the same time as an "inability to increase demand, which affects pricing," the prices that platforms can demand for advertising will decline (Wolff 2012). The flow of value from elsewhere in the economy may also dry up as a result of the overall economic conditions facing advertisers.

Some Responses

Web 2.0 firms have responded to these potential threats in a number of ways, which fundamentally are concerned with either trying to ensure that users and advertisers remain with particular services or seeking to create new ways of monetizing their user base or to diversify their sources of revenue. Google, in particular, has used the tactic of user tie-in by providing a range of services tied together by its software, which aims to ensure that as much as possible of a user's overall online activity is carried on under its watchful eye. This enables the creation of more complete user data and opportunities for advertising, as well as directly competing with products from other organizations. It also can be a factor in guiding acquisition strategies.

Closely linked to user tie-in is the strategy of attempting to create effective monopolies in specialized areas and then extending them by driving out potential competition in others. Google has been referred to the antimonopoly authorities in both the United States and European Union (EU) for—among a long list of other charges—using its dominance in search and manipulated search results to refer users to its own services at the expense of competitors. (ICOMP 2011; Vaidhyanathan and Pasquale 2013).

Firms also adopt new methods of monetization, such as Twitter's "Sponsored Tweet," or simply other methods of making money, such as Google's exploitation of Android. The share of advertising in Facebook's revenues has dropped from 95% in 2010 to 85% in 2012 because of the development of Facebook Payments as a means for online game players to pay for virtual goods.

This is not a complete list of the obstacles, real or potential, to capital accumulation by Web 2.0 firms nor of their responses. Other threats include so-called disruptive technologies not well suited to effective placement of advertising, legislative intervention, and problems of valuation highlighted in the Facebook flotation. Rather, here we have shown that the double dependency on autonomous users and advertisers highlighted in our analysis can itself be the direct cause of threats to a smooth path of capital accumulation.

CONCLUSIONS

In examining the source of value in Web 2.0 capitalism, we have demonstrated that Marx's ideas should neither be rejected in favor of a subjective finance-based theory of value nor reduced to a theory of the creation of surplus value through direct exploitation. Rather, once we move away from the direct sphere of production to examine the circuit of capital as a whole and the sharing of surplus value between different sectors of capital, we are able to see the source of the most significant component of Web 2.0 revenues—advertising—as a transfer from other sectors of capital in order to realize value produced elsewhere.

At the same time, a Marxist analysis of the relationship of different kinds of labor to capital and their subsumption points to the autonomy of users in relation to Web 2.0 platforms' capital accumulation processes. This both forces the platforms to use coercive means to enable direct appropriation and leaves the users outside their direct control.

The combination of these two facets points to the potential brittleness of Web 2.0 capital and its susceptibility to defections by users or advertisers, and tactics such as tie-in and monopolization are responses to them.

Thus, Marx's ideas on the circulation of capital, commercial capital, primitive accumulation, and forms of labor—productive and unproductive, subsumed and non-subsumed—can serve to underpin a theory of Web 2.0 capitalism that neither rejects the Labor Theory of Value nor is reducible to it. This demonstrates that a critical political economy of Web 2.0 goes beyond acceptance or rejection of a single Marxist approach based on direct exploitation of users. Our approach serves more broadly to understand the operation of those sectors that provide free services but subordinate that to the demands of capital accumulation.

The whole problematic of monetization of Web 2.0 services is a symptom of the ways in which the drives of capital distort and devalue the potential social benefits of the Internet and the socially useful services provided by firms such as Google, which according to an ex-executive is now “an advertising company with a single corporate mandated focus” (Whittaker 2013). As Marx would have put it, we see again how the development of the forces of production and communication conflicts with the social relations of informational capitalism.

NOTES

1. The productive and unproductive labor distinction is controversial within Marxism and beyond. For short presentations of Marx's writings on the subject see Gough (1972) and Rubin (1928/2008). For papers supportive of the distinction and the position taken in this paper, see Leadbeater (1985), Mohun (1996; 2003), and Savran and

Tonak (1999). For a critical development of Marx's categories and their application to the current “Digital Labor” debate in ways broadly consistent with the arguments in this perspective, see Huws (2013), which appeared too recently for further analysis here.

2. However, particularly where it provides the only outlet for a producer, commercial capital can become sufficiently powerful vis-à-vis the producer to drive down margins and take most of the value created.

3. Nielsen (2013, 2) notes that “advertisers and agencies think sales generated and brand lift . . . are the most appropriate metrics to use to determine return on investment [in social media advertising].”

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