

Jacques's (2000) Call for a Knowledge Theory of Value: Implications for Labour Process Theory

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Abstract

One prevalent theme in contemporary accounts of global political-economy is that firms create and accumulate value by leveraging “information” or “learning” processes (cf. Stiglitz, 2002). Based on this, Jacques (2000) responded by proposing that organizational theorists who write from a critical perspective on global capitalism should abandon their reliance on Marx’s “labour theory of value” (LTV) and adopt a “knowledge theory of value” (KTV) to explain wealth-creation processes and workplace relations between capital and labour. One leading critical theory of work, Labour Process Theory, formally disavows the Marxian LTV (cf. Thompson & Smith, 2001), but nonetheless relies on it for some of its key theoretical underpinnings, including the belief that the labour process should be privileged for analysis because it is the site where surplus is created, that capitalist production is inherently exploitative of labour, that labour process theorists should engage in political activity aimed at labour ‘emancipation’, and that capital-labour workplace relations are fundamentally antagonistic. Thus, by challenging the theory of value that underpins them, Jacques’s proposal calls into question core LPT principles. We evaluate his call for a KTV in light of critiques from an LPT perspective, and conclude that both knowledge processes and labour processes can be and are leveraged as sources of “surplus value” in modern organizations. In our view, this means that LPT can no longer maintain that exploitation and capital-labour conflict are inherent features of capitalism. Their presence or absence in particular firms must be established by empirical research. It also means that LPT’s political stance should be to combat the systemic source of capital-labour inequity – the structurally unequal bargaining relationship based on labour having “nothing to sell but their skin” (Marx, 1867), and on achieving a socially-just distribution of the surplus wealth that must be generated under any mode of production.

Contemporary economic and sociological literatures are filled with accounts of political-economic transformations that are purportedly surging through the advanced capitalist economies (Stiglitz, 2002; Greider, 1997). One of these transformations centers on the perceived trend away from manufacturing work and towards “knowledge work” as the key driver of economic activity. Jacques (2000) responded to these developments by arguing that the “labour theory of value” (LTV) used by classical economists to understand wealth generation and adopted by Marx for his analysis of capitalist production is anachronistic, and should be replaced by a “knowledge theory of value” (KTV) that better reflects the nature of modern global capitalism. This proposal holds that knowledge and learning systems have usurped the role of production labour as the source of value in modern corporations. Jacques proposes that a KTV would better capture the “spirit” of global capitalism than an LTV does. His focus was on developing a KTV as a ‘constructive metaphor’, one that could open up paths to better-understanding modern workplaces and the broader political economy.

Since the LTV is a cornerstone, albeit an often overlooked one, of contemporary critical theories of work, Jacques’s move could have implications for how critical theorists understand work under capitalist modes of production. In this paper, we evaluate his proposal from the perspective of one such critical theory of work – Labour Process Theory (LPT - cf. Grugulis & Knights, 2001). LPT, which developed out of the work of Braverman’s (1974) Marxian approach to industrial sociology, has a rich tradition of empirically analyzing capitalist work processes, but has often been described as lacking conceptual coherence and a focused research programme, i.e., one that produces an accumulation of defensible knowledge claims, or a viable political agenda (Jaros, 2001; Thompson,

2003). Thus, our interest is to evaluate Jacques's (2000) call for the development of a knowledge theory of value from a Labour Process Theory perspective as a means of understanding contemporary labour processes and developing the conceptual core of LPT so as to improve its ability to explain contemporary workplaces.

Specifically, Jacques's call for a KTV has two important implications for Labour Process Theory. First, one of the core notions of LPT is that the "labour process" – the point of production, where manual labourers manufacture and assemble products - deserves special analytical attention due to its unique, leading role in producing/reproducing value, and therefore profits, for the firm and in producing capitalist social relations in general (Thompson & Newsome, 2004). But, Jacques's proposal implies that the activities of employees outside of the production labour process – employees who manipulate information such as intrapreneurs, strategic planners, information managers, supply-chain analysts, accountants, finance experts, marketers, etc. – are the primary producers of value. Thus, his proposal denies a basis for LPT as a field of study – that the labour process of production workers deserves special analytical attention because it is *the* site of value creation (Thompson and Smith, 2001).

Second, it challenges an important basis of the 'emancipatory political tradition' (Thompson, 1990) of LPT: That LPT should 'fight' for worker empowerment because production workers are exploited in the labour process. Exploitation (a term derived from Marx's LTV) is generally defined as the labourer earning less in wages/benefits than the value of the work performed (Grugulis & Knights, 2001), the difference being 'surplus value' that accrues to the firm. But if an organization is earning surplus value out of learning and knowledge resources, this means that it may not be exploiting its labourers, which undermines the basis for 'fighting' on their behalf.

Finally, another reason to study Jacques's call for a KTV and its impact on LPT is that doing so allows us to partially address a key dispute in critical social theory – the one between an *information-technological* perspective (cf. Baudrillard, 1993), which views computer-driven technological change as having created a "post-capitalist world" and an *economic*-focused perspective that portrays seemingly-new political-economic processes as merely the extension of the ages-old "logic of capitalist expansion" to the global level (cf. Robins & Webster, 1999). But Kellner (2002) views each perspective as one-sided:

The economic depicts globalization as the continuation of market capitalism but fails to comprehend the new forms and modes of capitalism itself which are based on novel developments in science, technology, culture, and everyday life. Likewise, the technological fails to note how the new technologies and new economy are part of a global restructuring of capitalism and are not autonomous forces...(p. 289).

Kellner (2002) calls on critical researchers to develop theories that integrate these perspectives and thereby achieve a comprehensive picture of globalization under capitalism. Since Jacques's argument clearly proposes that new information-processing and learning processes have replaced production labour as the engine of value creation, his KTV proposal is reflective of a technology-focused orientation to global wealth creation, whereas the Marxian LTV which underpins LPT is rooted in the traditional economic-focused orientation. Thus, Jacques's call for a KTV and its collision with LPT's version of the LTV represents the intrusion of a general critical-social-theory dispute into the realm of critical organizational analysis. By analyzing the relative "value" of the KTV and its impact on LPT via the latter's dependence on the LTV, we may be able to take steps towards resolving this dispute, at least within the organization theory domain.

Our paper unfolds as follows. First, Jacques's (2000) call for a knowledge theory of value is described. Then, criticisms of his proposal that have been voiced by labour process theory analysts are presented, evaluated, and extended. Based on this evaluation, implications for the future development of LPT are discussed.

I. Jacques's (2000) KTV proposal

Jacques (2000) notes that traditional Marxian economics assigns all of the 'credit' for wealth-creation to the labour performed by production workers. This idea flows from the LTV notion that while all production resources *transfer* value to the product created (thereby appreciating the value of the product and depreciating the value of the production resource), only labour has the 'peculiar characteristic' of being able to *create additional* value, i.e., adding more value to the product than its cost to the capitalist to employ it. Labour is the only resource that is a source of 'surplus' value. Jacques proposes that while this view was perhaps valid during the 19th and for much of the 20th centuries, when a labour-intensive manufacturing sector dominated capitalist economies, it is no longer valid today. Capitalism has developed to a point in which knowledge and learning processes have usurped the role of production labour as the engine of value creation. The key to competitive success in today's economy is to constantly generate new knowledge via learning processes, thereby staying one step ahead of the competition (cf. Blackman & Henderson, 2001). Thus, it is the creation of learning processes that is the primary source of value.

According to Jacques, one way to reconcile the LTV with the growing importance of knowledge and learning processes would be to view the latter as a product of human labour. That they are, but in a way that does not seem to conform to how the LTV accounts for value-creation. Jacques claims that, contra the LTV, in a knowledge-learning economy, the value of knowledge and learning capacity is determined by factors other than the labor-time invested in developing it. For example, one might invest 2 years of labor-time earning an MBA, and yet this credential would be more valuable (command a higher market price) than a Doctorate in Renaissance Literature that takes 4 years of labor-time to earn. Also, Marx's LTV ignores what (to Jacques) are the patently obvious contributions to value creation contributed by 'knowledge workers' such as marketers, financial experts, graphic artists, software developers, and new product development engineers – clearly not the kind of 'labourers' or 'labour processes' Marx was referring to as the source of surplus-value. Marxians tend to write-off the efforts of marketers and finance experts as activities that are 'parasitic' at worst, or at best *realize* value for a firm but do not create it. Jacques's argument implies that this distinction between value-creation and realization is untenable: clearly there is 'value-added' in work that 'realizes' value created in production, because if value isn't realized it is meaningless to the firm.

Finally, The LTV ignores the value-creating activities of "smart machines", machines that have computerized 'brains' that do 'knowledge work'. Jacques notes that to Marx, machines are merely congealed labor – they cannot create more value than the value of labor time that was expended to create them. But Jacques argues that devices such as x-ray machines and radar systems have a 'machine intelligence' that produce value above-and-beyond the value of the labor that went into creating them (i.e., surplus value). Thus, there "is no necessary relationship between the labour required to produce a machine and the labour it replaces in the production process (p. 212)". Jacques concludes that a new theory of value, a Knowledge Theory of Value that captures the value-creating contributions of knowledge work and learning, is needed to better our understanding of modern capitalist political economy.

In the next section, we evaluate how LPT critics have responded to Jacques (2000), both directly and by implication. Then, we analyze these criticisms and evaluate how a "knowledge theory of value" may or may not be useful to the further development of LPT.

II. Labour Process Theory criticisms of Jacques (2000)

One characteristic of contemporary LPT is that there is no consensus on the content of the "theory". The LPT community is fractured, with camps consisting of Foucauldians (e.g., O'Doherty & Willmott, 2001) and critical materialists (e.g., Thompson & Smith, 2001). Yet surprisingly, the camps are largely united in critiquing Jacques's call for a KTV. In this section, the criticisms that prominent LPT writers

from each camp have made (either directly or indirectly) of Jacques's call for a KTV are reviewed and then evaluated.

a. Foucauldian LPT criticisms of Jacques's KTV

Willmott (2000) is an exemplar of post-modernist criticisms of Jacques's argument (cf. Prichard, 2000, as well). Willmott evaluates Jacques's proposal from a post-modernist perspective and targets Jacques's claims about the degree to which capitalism has undergone radical transformations since Marx's era. Willmott argues that the importance assigned to "knowledge work" as a driver of economic activity by contemporary managers and 'managerialist' academicians is less an accurate description of empirical reality and more of a 'hegemonic concept' developed by businessmen, consultants, and politicians to discipline employees to accept new forms of control at work and consumers to desire new kinds of products. Willmott notes that the emergence of this managerialist discourse has coincided with a trend towards downsizing, de-layering, the transfer of jobs from high-wage western countries to low-wage 'third world' countries, and a deluge of marketing 'hype' aimed at selling information-technology products.

Thus, Willmott views knowledge-economy discourse as a kind of 'party line' developed by Capital and its apologists to justify organizational changes that have negatively impacted many workers on the grounds of necessity (i.e., competitive advantage) or the common good (efficiency, lower prices for consumers). Jacques misperceives a change in managerialist discourse (i.e., a managerial "fashion", as per Swan, Robertson, & Bresnen, 2002) for a change in actual real-world political-economic conditions. So what is actually going on in the world? Underneath this managerialist discourse about knowledge, etc., Willmott argues that old-fashioned labour-exploitation is still alive and well: capital remains dependent on "potentially recalcitrant labour" to design and assemble products, without which the finance and marketing wizards cannot work their discursive magic in the product and equity markets. Willmott does concede that contemporary managers do rely on a range of new information-systems, surveillance systems and normative control mechanisms (indoctrination via corporate cultures, peer pressure, etc.) to monitor and 'discipline' workers. But, the aim of these new control systems is viewed as being the same – reducing production labour indeterminacy – as it ever was.

Thus, Willmott seems to be saying that even if one were to concede that information management has superseded production work as the *apparent* source of value, the latter remains the bedrock upon which the techno-discursive superstructure stands, and the problem of "labour indeterminacy" persists as a fundamental feature of global capitalism. However, this criticism of Jacques's proposed KTV doesn't translate into an explicit endorsement of the Labour Theory of Value, and in other writings Willmott has explicitly rejected the LTV for its 'scientism' and its 'essentialist' conception of human nature (Willmott, 1990). But, at least some degree of support for the LTV is seemingly implied by his arguments about labour as the "creator" of value sources.

b. Critical-materialist LPT criticisms

Relatedly, Thompson and colleagues – e.g., Thompson (2003), Warhurst & Thompson (1998), Thompson et al. (2000) - have published research that, while not specifically aimed at Jacques's argument for a KTV, has critical implications for it. Thompson and colleagues attack the empirical underpinnings of Jacques's proposal- the notion that wealth generation processes have changed significantly in recent years. For example, Warhurst and Thompson (1998) note that, during the 1990s, while there was an increase in the overall percentage of workers in the US and Europe who are employed in non-manual labor, most of the gains occurred in low-pay, de-skilled, highly-routinized service-sector jobs (e.g., security guards, domestic help, nurse's aids, retail sales, fast food service, etc.), not the high-pay, high-skill technology-based jobs that are commonly associated with "knowledge work". They claim that only about 8% of the workforce in Western Europe and the United States could be fairly classified as "symbolic analysts" as described by Reich (1993), and

conclude that claims of a “new epoch” of capitalism based on knowledge as the engine of value-creation are “over-hyped”.

Thus, like Hull (2000), Thompson and colleagues argue that our understanding of contemporary capitalism can best be improved via detailed case studies designed to document the ebbs and flows of struggles for control in specific industries and workplaces, unfettered by assumptions about “radical changes” and an “information society”. Since it these assumptions about radical changes – the notion that we are now experiencing a ‘3rd industrial revolution’ built on knowledge and learning processes – that are the basis for Jacques’s notion that an KTV is necessary to understand modern political-economy, the Thompson et al position can be presumed to disagree with the idea that a KTV would be useful in helping us to better-understand work in contemporary organizations. Thompson and colleagues do agree with Jacques that many organizations are using new information-based and normative control mechanisms in the workplace (including team-surveillance and ‘emotion management’), but they argue that rather than representing something significantly different, these new forms of control are just the latest in a long line of methods implemented by management to enforce the underlying Tayloristic exploitation of production labour, not part of a new regime for capturing knowledge-as-value.

However, the Thompson et al. perspective, like Willmott (2000), has an ambiguous relationship with the LTV. For example, Thompson (1990) and Thompson & Smith (2001) argue that the LTV has limited power as a trope for evaluating or understanding modern labour processes. Thompson and Smith (2001) claim that “... there is no evidence that any theory, be it the law of value or productive labour, are necessary preconditions for understanding the link” (p.48) between work, its management, and the broader political economy. To traditional Marxists, such as Cohen (1987), the LTV is fundamental to an analysis of capitalist work organizations and political economy because it explains the existence of the exploitation of one *class* (workers) by another class (capitalists), leading inexorably to class-wide political movements that will have a revolutionary character (ending exploitation), and thus transform the political-economy of a country. Take away the LTV and you take away the ‘linking pin’ between what happens in particular workplaces and what happens society-wide. To Thompson and colleagues, this ‘linking pin’ has proven to be illusory.

Yet as with Willmott (2000), there is a “back door” reliance on the LTV in this body of work. For example, Thompson and Smith’s (2001: 47) description of LPT’s core theory concepts makes prominent mention of factors like the “the function of labour in generating surplus in capitalism” and “the dynamics of exploitation and control” of labour, ideas that are part-and-parcel of the Marxian LTV.

c. A defense of Jacques vs. the LPT critics

Jacques posits that there have been transformative changes in how wealth is created in western society and that this is associated with new forms of managerial control techniques (i.e., ‘knowledge management’ doesn’t consist solely of utilizing knowledge to increase efficiency, productivity, etc. it involves new forms of control to maintain the security of knowledge-creating processes, including its technical and human elements). The LPT critics argue that while material conditions of production are largely unchanged (there are still relations of dominance and exploitation in the production process that revolve around surplus-value extraction from production labourers), there has been a significant change in how managers attempt to control workers. Managers are drawing on new discourses of normative control (i.e., the notion that we are in a new “knowledge economy” requires that workers accept downsizing, outsourcing, wage cuts, etc. as necessary and inevitable) and new info-based methods of control (computerized surveillance, peer surveillance in work teams, emotion management) to enhance their ability to pump surplus value out of labor.

The key empirical question, therefore, would be whether or not wealth generation has shifted at least somewhat from production work to learning/knowledge management processes. And on this point,

even the LPT critics sometimes seem to concede as much. After critiquing Jacques's call for a KTV, Willmott (2000) agrees that "where the production of exchange and surplus value is *conditional on the recurrent generation of knowledge* (my emphasis) that requires continuous learning, managers are obliged to develop alternative strategies.... Among these strategies are teamworking, where, in principle knowledge is pooled and collectively shared (p. 220)." Likewise, new forms of work organization and control such as TQM, process re-engineering, interdisciplinary work teams, and 'employee empowerment' are widely recognized to be aimed at fostering and directing knowledge-generation and 'continuous learning' processes in organizations for the purpose of value-creation (O'Reilly & Pfeffer, 2001).

Furthermore, in some places Thompson et al. (Thompson 2003, Thompson, Warhurst, and Callahan, 2000) do acknowledge that production and service workers are required to utilize information-based skills to produce value-added, and that new forms of work organization have emerged, forms that are difficult to reconcile in terms of traditional Tayloristic accounts related to pumping surplus-value solely out of production workers. Thompson et al. (2000) note that (a) in many service-sector firms, 'tacit' skills such as emotion-management, the ability to 'perform' for customers (e.g., a call center worker's ability to 'smile down the phone' at customers), communication skills and image-management skills – all based on knowledge or learning processes- are far more important now than they ever have been and (b) there is a greater economy-wide emphasis on the dis-aggregation of vertical structures via either de-layering of middle management, or via horizontal integration (the creation of cross-functional work teams within organizations and networks/alliances across them), both of which require the deployment of advanced computer-based information systems and information-management skills designed to foster knowledge and learning across organizations.

Similarly, Altmann and Deib (1998) note that the value-creating focus of many firms has shifted from extracting value at the point of production to extracting value from interfirm networks via supply-chain management, which are dependent on organizational learning and information management processes. Thus, the available evidence suggests that there is, at least amongst leading American and European firms, a managerial emphasis on harnessing learning and knowledge creation processes as a source of surplus value.

Thompson et al. (2000) do present evidence that some social scientists have gone too far in buying into the "utopian" managerialist hype about empowered-workers, cyber-liberation, re-skilling, and de-verticalization on the one hand (e.g., McElroy, 2002) and the "dystopian" vision that sees the emergence of perfect control via constant electronic surveillance, corporate brainwashing and emotion-management on the other (e.g., Sewell, 1998). But, having conceded that significant changes have occurred in many sectors, their objection to Jacques' notion that we now live in an economy that involves the leveraging of knowledge-as-value-source is more a matter of semantics than substance. Likewise, Warhurst & Thompson (1998) and Thompson (2003) also marshal evidence to refute the notion that what Jacques calls "knowledge workers" is really becoming a larger segment of the overall workforce. The implication being that value creation is a function of labour proportionality – those segments of the workforce that are most numerous are assumed to create the most value. However, in my view this doesn't necessarily follow. Even if low-skill, low-pay, physical labour jobs still far outnumber "symbolic analysts", and even if the latter are not growing as a proportion of the workforce, that doesn't mean that the primary locus of value-creation hasn't shifted from the former to the latter. There is no reason to believe that value-creation is a function of numerical preponderance.

Obviously, any claims that we are now living in an particular kind of "age" are at least partially metaphorical, i.e., the idea behind Jacques's (2000) notion of a "knowledge economy" (and hence the need for an KTV) is that it captures a general tendency of the modern world, not that there aren't variations from this 'ideal type' across industries, markets, etc. But given the tremendous proliferation of literature related to "organizational learning", "knowledge management", "knowledge work", etc., the widespread rhetorical adoption of these terms in the discourse of organizational communication (Willmott, 2000; Swan et al. 2002), combined with the significant number of organizations that have

implemented structural changes associated with learning and knowledge management, Jacques' basic assertion about a shift in wealth creation away from exploiting production and service labour and towards learning processes and knowledge management, seems reasonable.

d. my critique of Jacques's call for a KTV

However, there are some problematic elements to Jacques's proposal that are not highlighted by LPT researchers, primarily because they relate to Jacques's juxtaposition of his proposed KTV with Marx's LTV, a theory that LPT formally rejects. Collectively, these problematic elements undermine Jacques's claim that "knowledge and learning processes" have *replaced* production labour as *the* source of value in modern corporations:

First, Jacques (2000) is on shaky ground when he critiques the LTV on the grounds that in today's economy there is an obvious "disconnect" between the amount of time invested in acquiring knowledge and the value (price) that expertise commands in the marketplace (as per his 2 year/MBA... 4 year/PhD example). Jacques claims this disconnect as evidence that "labor time invested" no longer can account for the value of knowledge-based training. However, this argument overlooks a key concept in Marx's version of the LTV, that of "socially necessary labor time". This concept reflects Marx's recognition that merely performing labor – physical or mental – does not by itself create value. The value of a given act of labor does depend in part on the social 'necessity' of that labor, i.e., the value of that labor in meeting the needs and wants of others. Four years of mental labor invested in becoming an expert in medieval history may produce less value and therefore command a lower price in the market than two years invested in learning how to program a computer using C++ if the latter is more socially-necessary than the former.

Jacques also makes much of the knowledge economy emphasis on fostering and utilizing 'tacit knowledge' generated by workers, and contrasts that with early industrial era Fordist and Tayloristic production regimes that emphasized the application of 'scientific' knowledge. Along with many other writers (Stiglitz, 2002; Greider, 1997; McElroy 2002) he argues that this emphasis on tacit knowledge is a marker of the transition between the new and old economies. However, Jacques also concedes that Taylorism did, at least to some extent, recognize the importance of tacit knowledge and tried to capitalize it in machines and work rules. Taylor referred to such knowledge as "traditional knowledge" (i.e., knowledge related to improving job and workflow productivity that workers gain via the experience of doing their jobs), and one of the goals of the time-and-motion methodology was to gather that knowledge so that it could be 'captured' by management and capitalized in rules, procedures, modifications to tools and workflows, etc. This somewhat undermines Jacques's claim that today's modes of work organization are radically different from those of earlier eras.

Finally, Jacques' argument that "the oppression of workers by machine production" is no longer the "central socio-economic problem" (p.209) to be addressed because production labor is no longer an important contributor to product value reflects somewhat of a mis-recognition of the global nature of modern capitalism. One characteristic of the global economy is the off-sourcing of much labor-intensive work by trans-national corporations to third world locales where labor and materials costs are significantly lower and environmental and worker safety regulations are laxer than in the advanced countries (Stiglitz, 2002). Even if we grant that the majority of workers in the United States and European Union enjoy wages and regulatory protections that cannot reasonably be characterized as "oppressive" by the standards of Marx's era, the same cannot be argued about the experience of many workers in Latin America, Africa, and Asia, where wage rates, working conditions, and child labor do approximate the Dickensian stereotypes. And many of these workers are employed or contracted for by many of the same companies (e.g., Dell, Nike, Wal-Mart) that are lauded as the leaders of the new "learning and information economy" in the western world. A company like Nike that employs a cadre of highly-paid "symbolic analysts" in the United States, creating the appearance that the source of its profits is the result of "knowledge work" in the communication, product design, and marketing realms,

is probably gaining a considerable contribution to profits via the \$.75 an hour labor of unskilled workers in Vietnamese and Philippine sweatshops.

Thus, while we have reason to believe that Jacques is correct that “knowledge and learning processes” account for wealth creation in today’s political economy in a way that is qualitatively different from the role they played in the past, there are grounds to doubt that they are the sole or even dominant source of value creation. Production labour is clearly still making a contribution.

III. The LTV, the KTV, and their implications for the development of LPT

In this section we evaluate the net usefulness (i.e., given the evaluations of the previous section) of Jacques’s call for a knowledge theory of value as having implications for Labour Process Theory and its approach to understanding the nature of work under capitalism. Recently, LPT rejection of theories of value have taken the form of the “so what?” objection, i.e., whether the LTV (or any alternative theory of value such as the KTV) is true or not, how does that impact the other concepts developed by LPT, or otherwise help us better understand what workplaces in capitalist political-economies (Thompson & Smith, 2001)? This objection challenges the relevance of *any* theory of value to LPT, knowledge or labour-based.

a. The LTV and LPT’s coherence

As referenced earlier, our contention is that the rejection of the LTV by LPT does have an important implication for how LPT conceptualizes the labour process. One of the “core theory” (cf. Thompson, 1990) components of LPT is that the labour process is worthy of special analytical attention, i.e., it merits being bracketed off for analysis from what happens in the rest of the organization and also the broader political economy. Core LPT conceptualizes a firm’s production labour process as having a “relative autonomy” (Thompson & Newsome, 2004) from other organizational subsystems and from macro socio-economic phenomena. The basis for this notion is that the production labour process is where surplus wealth is produced. Specifically, Thompson and Newsome (2004) describe one of the core dimensions of LPT thusly: “since the labour process generates the surplus, and is a central part of the human experience and acting on the world and reproducing the economy, labour and the capital-labour relation is privileged for analysis” (p.2). This statement makes it clear that the labour process is theorized to generate ‘the surplus’ and this characteristic is a basis for focusing on the labour process as an object of study. If the LTV is rejected, if value-creation is sourced elsewhere than the labour process, then that basis is undermined.

Similarly, the exploitation of labour in the production process is conceptualized as the basis for the “structured antagonism” between capital and labour that LPT holds inheres in capitalist production (Edwards, 1990; Thompson & Newsome, 2004) and is the root of conflict in the labour process. Thus, this critical element of LPT’s “core” also depends on a concept drawn from the Marxian LTV – exploitation.

This perhaps explains the ambivalence that prominent LPT writers have about Marx’s LTV – as described in section II writers such as Willmott and Thompson formally reject it, but end up smuggling some key ideas associated with it back into the conceptual armory. As noted earlier, what post-modernist writers share with their “core” LPT brethren is the belief that capital actively and continuously seeks to control the behavior of production labour. But these theorists find it difficult to explain why control is necessary absent some kind of LTV-derived concept that privileges the role of production workers as surplus value-creators. So contrary to being conceptually irrelevant, theories of value – particularly a theory that privileges the role of labour – would seem to be critical to LPT’s coherence and its claim that the labour process is worthy of special analytical attention.

However, it also seems as if LPT is correct to reject the ideas of orthodox Marxists (e.g., Cohen, 1987) who advocate a wholesale retention of the LTV. Thompson (1990) argues persuasively about the

'empirically unsustainable link' between the frontier of control in a given workplace and broader social transformations. The LTV was the basis for the revolutionary predictions made by Marx, and those predictions have not been realized. This is compelling evidence that at least some aspect of the theory or its implications were incorrectly drawn. But does this imply that the LTV is of absolutely no use to helping us understand modern capitalism? Not necessarily. Perhaps some aspects of the theory can be salvaged. As a general principle, this possibility has recently been recognized by Thompson and Smith (2001). Referencing the relevance of Marxian concepts to understanding today's political-economy, they note that "it is better to see what can usefully be retained, what is historically contingent, and what ... appears no longer appropriate to the current phase of global capitalism" (p. 49).

Thus, the solution to the dilemma is to identify what is analytically useful about the LTV and to incorporate that into our understanding of capitalist work processes. In this regard, I think that some of the ideas that Jacques (2000) proposes in his call for a *KTV* can be helpful:

(1) Labour and knowledge as contributors of value. Our evaluation concluded that Jacques (2000) makes a reasonably strong case that knowledge and learning systems do create value-added in many firms, thus undermining the LTV claim that labour is the sole source of value-added in contemporary global capitalism. But, his contention that knowledge/learning has *replaced* production labour as the sole source of value-added is much less persuasive, since as his LPT critics note, there is a good deal of evidence that modern firms continue to leverage production labour as a value-adding resource. This evaluation leads to the conclusion that *both* production labour and knowledge/learning systems can be sources of surplus wealth creation.

Two important implications follow from this: First, in a given production process, any resource may or may not add more value than the initial investment made in it, that is, firms do need to produce a surplus in order to be economically viable, but because the source of that surplus can be labour *or* learning processes (or potentially some other resource input), labour exploitation isn't a *necessary* feature of capitalist production. This point bears emphasis: Since both labour and learning processes can be sources of surplus value, it is possible that a capitalist firm could earn a surplus by leveraging learning processes alone. Labour exploitation therefore isn't necessary for capital accumulation. Labour may be a source of surplus value in some organizations and some industries but not in others, and likewise for learning systems and other productive resources. And second, because resources are combined to create wealth, it is difficult to definitively disentangle their relative 'surplus' contributions, and therefore which resources are contributing 'surplus value' is not automatically known to organizational decision-makers. Thus, from the perspective of the owners of the organization, *the* source (or sources) of "surplus value" is typically *indeterminate*, in the sense that it is unknown (cf. Reed & DeFillippi's, 1990, notion of "causal ambiguity"), which gives rise to the notion that value-added creation is the 'synergistic' effect of resource combinations. "Synergy" being a term used to denote our (and the capitalist's) lack of specific understanding about the value-creating proportions of a given set of resources.

One way to perhaps gain some insight on the relative contribution of each resource input to value creation would be to examine the amount of tangible effort (time, money, etc.) expended on control and management of one resource relative to the control of other resources in successful firms, the idea being that even if a successful firm's management isn't consciously aware of the relative contributions, it will nonetheless tend to expend more effort managing the more-vital resources (firms that fail to do so will be 'thinned from the herd' via competition, to use an evolutionary analogy). This is a far-from-perfect method, because time/effort expenditure might reflect factors (such as the technical difficulty of reducing indeterminacy for a particular resource) rather than just the contribution to value provided by that resource. But it would be an approximate measure, since successful firms are (absent monopoly conditions), by definition, combining resources in ways that create and realize value-added.

Along these lines, Littler (1990) proposes that the kinds of labour, competitive, and technological conditions that characterize global capitalism today (fast-changing technology, lack of well-structured external labour markets, low unemployment, intense competition, international labour markets) tend to lead to the expenditure of *more* management effort and expenditure on managing the production labour process than do stable technological, competitive, and labour market conditions. Littler contends that rapidly changing work technologies “destabilizes rigid work procedures” so that more managerial attention has to be devoted to job design and training in order to effectively tap the productive capacity of labour. In contrast, Jacques’s call for a KTV is based on the notion that turbulent global market conditions mean that knowledge management, not labour management, is the new ‘centre of gravity’ in work relationships, such that more time and effort is spent managing and controlling them than is expended on the activities of production workers. These competing ideas could be tested via empirical research. It is possible that these relative contributions to value creation could vary across industries or labour processes.

(2) Implications for understanding control in capitalist labour processes. Since the late 1970s, the analysis of labour-control systems has been one of the major concerns of LPT (cf. Grugulis & Knights, 2001; O’Doherty & Willmott, 2001; Jaros, 2001). This is because labour is viewed as “indeterminate”, i.e., even though management has formally acquired the services of a labourer via the establishment of an employment contract or effort-bargain, the worker may not produce as anticipated. A worker may choose to be absent, late, put forth minimal effort, leave to join another company, engage in sabotage, or their skills may deteriorate, etc. This explains the existence of labour-control systems – they are designed to ‘realize’ the value-producing capacity of labour power. This notion of labour-indeterminacy, combined with the notion of the “relative autonomy” of the labour process, has resulted in a LPT research programme that has tended to study labour-control systems in isolation from other-resource control systems (Jaros, 2001).

But a multi-resource perspective on value-creation suggests that (a) all productive resources are ‘indeterminate’, i.e., any resource may fail to perform as planned, though unlike labour not in a ‘willful’ way, meaning that all organizations have systems for controlling these productive resources, and (b) because organizations create wealth by combining resources, control systems are typically interrelated. For example, the performance of *money* is indeterminate – its value fluctuates in response to changes in currency markets, interest rates, inflation, etc. It is also subject to theft, embezzlement, and so on. This explains the presence of financial control systems. The performance of *tools and machines* are indeterminate – they can break down, malfunction, or become obsolete relative to functionally-similar devices employed by the competition. Control is attempted via the employment of maintenance workers and investment in new and more reliable technologies. *Knowledge* is “known” in a bounded-rational way, i.e., information is often unreliable, what is believed to be true may not actually be true, and knowledge loses value as time elapses, the business conditions that made it valuable change, competitors gain access to it, etc. This explains investment in information-generation, learning, control systems such as ever-faster and ever-more-accurate information systems, and security software aimed at protecting information networks.

Also, controls systems for different resources are often inter-related. A system designed with the primary purpose of controlling information flows may have the secondary effect of proscribing the behavior of workers. For example, Adler (2003) found that control systems implemented with the primary purpose of enhancing software product quality and the transfer of knowledge within software design teams significantly impacted on the work experiences and behavior of software designers. Analyzing just those control systems explicitly and primarily designed to control human behavior would have provided an incomplete explanation of labour-control processes. Thus, to fully understand control within the labour process we must understand how the organization controls other resources, and vice versa. There may be a relative autonomy of the labour process (Thompson and Smith, 2001) vis-à-vis the broader political economy, but not vis-à-vis other organizational sub-systems of control. Empirical investigations of labour process control systems will be most insightful when combined with investigations of other-resource control systems.

(3) Concerning exploitation and conflict in the labour process. Though the particulars may vary across states and labour markets, in capitalist economies the fundamental social context in which the capital-labour relationship unfolds is one of domination and subordination (Edwards, 1990), i.e., production labourers are, as a class, subordinated to capital in that they are compelled to sell their labour-power to capitalists in order to survive (Marx, 1867). This Marxian insight is one that is often overlooked in ‘mainstream’ micro-economics accounts of resource-price determination. According to Lippman and Rumelt (2003), in traditional long-run partial equilibrium analysis, the wage (‘rent’) received by any production input (including labour) consists of three components: (1) payment to maintain physical survival/capability as a resource (i.e., for labour, ‘subsistence’), (2) payment to forego alternative employment in another activity (i.e., the worker’s ‘opportunity cost’) and (3) payment above and beyond (2), reflecting the extra value of that labour in the particular industry. But Lippman and Rumelt conclude that this analysis overlooks the crucial role of *bargaining* in determining price. Bargaining and negotiating power can influence price such that it doesn’t necessarily (even usually) correspond to these three components.

As Marx noted, at a class level, the fact that workers are deprived of the means of subsistence independent of their ability to perform labour provides capitalists (whose subsistence costs are, in the short run, covered) with more bargaining power than labour. This ‘uneven playing field’ systematically favors capital and creates a tendency for capital to achieve a better effort-bargain agreement from labour compared to the agreement that would have been achieved absent domination. This fundamental systemic tendency is enforced by the power of the state.

However, based on point (1) above, the capital-labour relationship is not *necessarily exploitative*, because in a given organization any resource may or may not be a source of surplus value. It is therefore (at least theoretically) possible for a firm to accumulate capital and earn profits by exploiting some resource, like learning systems, other than production labour. Thus, there is no a priori basis for the LTV/LPT belief that any given organization must be extracting more value out of its workers than it is paying in the form of wages, benefits, etc. It also means that contra Edwards (1990) capitalist production relations do not necessarily have an “exploitative character” (p.138). And, since this exploitative character is the basis for the LPT claim that capitalist labour processes are governed by a “structured antagonism” – a fundamental conflict of interest between labour and capital that creates a tendency for conflict and struggle in the workplace - the core-LPT claim that the capital-labour relationship is *fundamentally* characterized by structured antagonism (Thompson & Newsome, 2004; Thompson & Smith, 2001) is undermined as well.

However, capitalism does create tendencies that push management in the direction of seeking to exploit labour whenever possible. In managing the labour process capital is under market pressure to maximize productivity, i.e., value extraction. This is congruent with Marx’s discussion of the lengthening and intensification of the working day. Typically, management acts to “squeeze” as much productive work as possible out of each worker. But, for any number of reasons, the labourer may choose (or be unable, due to injury, skill depreciation, etc.) to produce at a level which is less than what management defines as a maximally productive rate. This is reflective of the ‘indeterminacy’ of labour, and may serve as a source of conflict and struggle that often (but doesn’t necessarily) characterize the labour processes in particular firms. When labourers are *willing and able* to work at a maximally productive rate (for whatever reason), structured conflict does not exist.

This implies a research programme that studies the conditions under which labour and management agree or disagree as to what level of work-effort and productivity is acceptable. Of course, much work has been done in this area by both ‘bourgeois’ industrial-relations researchers and Labour Process researchers who have catalogued various typologies and schema relating to control and resistance, the description of frontiers of control and factory regimes, etc. It is also reflected in Agency Theory’s study of personal utility tradeoffs between work and leisure, and of so-called “shirking” behaviors. However, the implication for LPT is that LPT researchers should not expect to always find conflict, or to interpret seemingly non-conflictual relations as evidence of the presence or effectiveness of

“normative” or “consent manufacturing” control processes. Burawoy (1985) was on the right track in calling for the development of a ‘theory of interests’ that would identify the empirical conditions in which the interests of capital and labour come into conflict in the workplace, but our analysis of value theory suggests going beyond Burawoy and contemporary LPT by adopting the willingness to recognize that the absence of conflict could actually be “genuine”, and not a result of worker false-consciousness, ideological hegemony, or corporate-culture brainwashing. Thus, existence of conflict between management and labour should be viewed by LPT as an issue that must be determined empirically, not something *a priori* assumed to be characteristic of capitalist production.

Implications for the political dimension of labour process theory. LPT claims an “emancipatory tradition” (Thompson, 1990). While originally (Braverman, 1974) this took the form of revolutionary Marxism, as LPT has developed this unified political orientation has fragmented. For example, Rowlinson & Hassard (2001) believe that the proper political role of LPT is to help workers learn from acts of resistance in the workplace as a preparation for “bigger things” (i.e., eventually a socialist revolution). Thompson (1990) proposes that LPT should develop ideas and practices that ‘empower’ workers, but to no specified end-goal. O’Doherty & Willmott (2001) propose that LPT should use postmodernist insights to liberate workers from the ‘commonsense humanism’ that entraps them in an obsession with identity-security, which in turn renders them unable to actively resist management. But despite these real differences, what is common to all LPT theorists is a belief that capitalist labour processes are exploitative and LPT should be oriented towards ending or at least alleviating the effects of exploitation (Jaros, 2001). LPT clearly positions itself on the “side” of workers and against capital.

However, our discussion of value creation leads to the conclusion that exploitation is not a necessary characteristic of any given labour process, and while exploitation may exist in a particular workplace, there are no analytical tools available to prove its existence. Even in an Indonesian sweatshop where 12 year-old workers are paid 50 cents an hour and are required to work 14 hours a day, and at a hurried pace dictated by overseers, there is no known way to *demonstrate* with reasonable confidence, that they are being exploited, in the strictly technical sense that they are being paid less than the value of the work they are doing. This apparently leaves LPT with no grounds for “fighting” on behalf of workers against capital. Admittedly, this isn’t a problem for some post-modernist LPT researchers who, following Foucault (or Parker, 1999) argue that in the first instance one only need reference a personal code of ethics or “sense of what is right and wrong” to justify a fight. But for those who (like me) need some ‘fact’-based ground on which to fight, it is a problem.

However, if the source of surplus value is indeterminate, management has an incentive to act as if *all* resources are potential sources of value, and thus to act to exploit the maximum possible value from each one. This means that in a competitive market, management has an incentive to *try* to extract surplus value from labour, i.e., to pump value out of the worker that exceeds the value of the wage being paid. Thus, there is a basis for *presuming* that managerial actions towards workers in the realm of the labour process are intentionally-exploitative, i.e., are aimed at extracting more work than was agreed to when the effort-bargain was struck. But it also means that managerial actions may not have that intent, or that specific workplace or labour-market conditions may prevent management from acting on that intent, and thus must be evaluated on a case-by-case basis.

This rules out a categorical political hostility towards management, but does allow for the LPT researcher to adopt a stance that presumptively favors the interests of workers over that of management, subject to the facts of a case calling that presumption into question. What kinds of facts might be relevant? In the Western context, management compliance with the terms of a union contract, compliance with governmental wage, working condition, and occupational safety laws, and the payment of above-average wages and benefits might be associated with the use of a non-labour-exploitation strategy, but that conclusion couldn’t be drawn absent an analysis of the broader political struggles that have shaped the laws of that country, which probably favor capital. But if compliance can’t by itself be considered to be evidence of the absence of exploitation, surely non-compliance would be evidence of exploitation.

The guiding political principle to be advocated would be that market competition and wealth accumulation should be based on the exploitation of non-labour resources, not labour resources. In all likelihood, given the absence of such a principle in today's political-economy, and that in capitalist countries the laws that frame the capital-labor relationship are typically skewed in favor of capital (Stiglitz, 2002; Greider, 1997), in most firms the preponderance of evidence would probably support the view that the firm is successfully pursuing a labour-exploitation strategy. This is what we must strive against politically, because absent political activism, free-market competitive pressures often compel capitalists to attempt to exploit labour. But, it's even possible that, under some bargaining conditions, the evidence might support the conclusion that workers are exploiting capital, i.e., extracting more in wages/benefits than the value of work performed, since they have this incentive as well. And LPT theorists should be prepared to identify and document those situations.

This also implies a political position that would be aimed at rectifying the systemic source of injustice in the capital-labour relationship: the structurally unequal bargaining context described in (3), which allows the capitalist (generally speaking) to strike an effort-bargain agreement with the worker that involves the payment of a wage rate that is below the rate that the worker would be willing to accept if he or she was bargaining absent the compulsion of the "whip of hunger" (Weber, 1908). Since this systemic inequity is likely to be felt most-acutely in labour markets characterized by a large supply of surplus-labour, i.e., low-skilled labour, one means of addressing this inequity would be to agitate, at a global level, for government laws mandating a "living minimum wage", and unemployment benefits that are adequate to sustain subsistence and of long enough duration to ensure that those without work are not compelled in the short-run to accept what they define as clearly exploitative employment situations; and training programs, including subsidized technical, vocational, and higher-education training, to enable low-skill workers the opportunity to upgrade their skills to in-demand occupations, ones in which the labour-market dynamic isn't as tilted in favor of capital. Since the public has been conditioned by free-market ideology to associate these kinds of proposals with "welfare" and "giveaways" to the "lazy", our first job as LPT/critical academics must be to educate our students and the public generally about the systematically unequal exchange relationship characteristic of capitalism.

One more political factor to consider is that even Marx did not advocate abolishing the exploitation of labour, in the technical sense of paying the labourer an amount equal to the value he/she creates. If the labourer was directly paid this amount, then there would be no wealth 'left over' to pay for the needs of those members of society who are unable to produce wealth (due to disability, young age, infirmity, etc.). Marx (1867) argued that the key moral issue was the *disposition* of this surplus, which under capitalism belongs to the capitalist and therefore does not go towards the betterment of society. Of course, Marx believed that Labour alone was the source of surplus-value. In our formulation, which recognizes the indeterminacy of surplus-creation, the implication would be one of advocating political positions that enhance the just disposition of social surplus, possibly via governmental social-welfare programs and other redistributive mechanisms.

Conclusion

The goal of this paper has been to take Jacques's (2000) proposal for a KTV in the spirit in which that proposal was made – not to try and develop a 'technical' or mathematical justification for it (which I think would be futile) but to evaluate it as a 'root metaphor' for modern capitalism, and by looking at capitalism from that perspective, tease out some implications for the future development of LPT. The possibilities for these kinds of implications exist because even though LPT has ostensibly rejected Marx's LTV, the Marxian concept of 'exploitation' is still a core element of versions of LPT. The notion that workers necessarily (since they are the sole sources of value creation or always produce surplus-value) receive less pay than the value of the work they do, is a basis for LPT's 'radical' political orientation aimed at worker 'emancipation', its view that "structured antagonism" is an inherent part of capitalist workplaces, and is a bedrock for bracketing-off the labour process for analysis.

The solution offered here is to take a middle tack between Jacques's endorsement of "knowledge work" as *the* source of value in the modern capitalist firm, and the work of the labour process theorists cited above that have rejected the usefulness of a KTV, or any theory of value including the LTV. A KTV and a LTV are only mutually exclusive if each posits knowledge and labour (respectively) as the sole sources of surplus value. But available evidence suggests that the exploitation of manual labor is still a source of wealth creation in many organizations, and yet the management of knowledge work, learning processes, and the efforts of "symbolic analysts" who do knowledge work is becoming a dominant feature of managerial control efforts as well, suggesting that knowledge work as well as productive labour both contribute to value-creation in modern firms.

This opens up LPT analysis to the recognition that resources other than labour can be sources of surplus value. This view is incompatible with some features of LPT – the belief that the capital-labour relation is *inherently* exploitative and irreducibly antagonistic, since it is possible that an organization is earning surpluses via the exploitation of non-labour resources, such as learning and information processes. These issues should now be treated as empirical issues to be investigated, not presumed to be fundamental characteristics of capitalism. It also means that modifications are required to the notion that the labour process can be bracketed-off for analysis on the basis of being *the* source of value creation. This belief has tended to result in research that over-emphasizes the "autonomy" aspect of the "relative autonomy" concept, resulting, for example, in a paucity of understanding as to how control systems aimed at other resources interact with control systems aimed at controlling labour (Jaros, 2001; Adler, 2003). It may also explain the paucity of research linking what happens at the point of production to the broader political economy (cf. Thompson, 2003). But I don't see this proposition or any of the other recommendations as being fundamentally incompatible with LPT, in the sense of implying its abandonment. Analyzing the labour process still makes sense, though as one process among several that inter-relate to produce value. I see this as consistent with efforts made over the past 10-15 years by LPT researchers aimed at teasing out characteristic differences among labour processes in different industrial sectors (e.g., the comparison/contrast of 'blue collar' and 'white collar' labour processes – Knights & Willmott, 1996). The same logic can and should be applied to the core issue of value-creation in organizations.

Finally, while our focus in this paper was on the implications of a KTV for Labour Process Theory, it bears noting that ideas associated with the Labour Theory of Value, i.e., the notion that, under capitalism, production workers are *the* source of value and are exploited by capitalists, and that ending or ameliorating the effects of exploitation is a key political goal of the critically-informed researcher, are characteristic of some other radical theories of work, including Marcusian Critical Theory (Jaros & Jermier, 1995) and Gramscian-inspired Marxism (Hardt & Negri, 2000). Thus, by inference, the call for a KTV challenges key ideas that underlie these critical theories as well, and our approach to integrating the knowledge and labour approaches to wealth creation could have similar implications for their development. Additionally, the analysis of value presented represents an alternative approach to the study of value, one that avoids the pitfalls of the technological-determinist or economic-determinist (cf. Kellner, 2002) perspectives on contemporary global capitalism. It is congruent with Kellner's (1989) notion of "techno-capitalism", an approach that recognizes the ever-growing role of technological advancement in contemporary labour processes while simultaneously acknowledging the "enduring primacy" of capitalist production relations, in particular the structurally-unequal labour market configurations that systematically tilts the effort-bargain in favor of capital. Ultimately, our recommendation is one that fits with the precepts of traditional Marxism- that analysts interested in understanding contemporary capitalist wealth creation focus on untangling the ongoing reciprocal influences between scientific advances in the means of the production of value and developments that characterize the value creating aspects of social relations of production at work.

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