LUDDITES, HIPPIES AND ROBOTS: AUTOMATION AND THE POSSIBILITY OF RESISTANCE

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It is argued that neither David Noble's call for a new Luddism on the part of workers nor Andre Gorz' reliance on the emergence of a "non-class of non-workers" provides an adequate strategy for resisting problematic uses of automation. Instead, their differing emphases present us with an old dilemma: How to avoid utopianism (where a vision of the future floats above history) without falling into a problematic conservatism (where present interests simply reflect the status quo). In the concluding sections it is argued that an effective resistance can be developed only if traditional worker constituencies enter into an alliance with movements for racial and sexual equality.

Keywords: automation, Luddites, racial minorities, women

I.

> Without regard for the wishes of men, any machines or techniques or forms of organisation that can economically replace men do replace men. Replacement is not necessarily bad, but to do it without regard for the wishes of men is lawlessness . . .

> I propose that men and women be returned to work as controllers of machines, and that the control of people by machines be curtailed. I propose, further, that the effects of changes in technology and organisation on life patterns be taken into careful consideration, and that the changes be withheld or introduced on the basis of this consideration . . .

> Men, by their nature, seemingly, cannot be happy unless engaged in enterprises that make them feel useful. They must, therefore, be returned to participation in such enterprises . . .

> From *Player Piano* by Kurt Vonnegut Jr.[1]

The revolutionary manifesto quoted above occurs near the end of Vonnegut's fictional account of the evolution of a fully automated society. As things turn out in the novel, the attempt at revolution comes too late. It comes too late not only because the technocratic elite has had a chance to consolidate its position. It also comes too late because of the debilitating effects of daily life in a highly automated society. In fact, Vonnegut's book can be read as a sustained argument for the claim that if problematic uses of automation are not resisted early on, they cannot be resisted at all. Revolution becomes impossible because daily life under automation erodes the very virtues needed to mount

an effective and truly critical resistance. No longer needed for anything, the worker is not able to develop the critical and co-operative dispositions needed to challenge a problematic *status quo.* Vonnegut sets the stage for this deeply pessimistic conclusion early on in his book as he shows how make-work schemes and sophmoric leisure activities sap the revolutionary potential of the average citizen. But it is not until the final pages that the reader fully grasps Vonnegut's point. Until then, the reader has been led to believe that there was a fairly good chance that the attempt at revolution would succeed. But this hope is dashed in the final pages as Vonnegut's hero, Paul, sees people engaging in indiscriminate machine-smashing rather than disciplined acts of resistance:

> "Lou, boy — we forgot the bakery. Still poopin' out bread like nobody's business."
>
> "Can't have it doin' that," said Lou. "Le'sh go knock the crap out of it."
>
> "Listen, wait," said Paul. "We'll need the bakery."
>
> "Machine, ain't it?" said Lou.
>
> "Yes, sure, but there's no sense in —"
>
> "Then le'sh go knock the crap out of it. And, by God, hereish ol' Al to go with us. Where you been, y'ol' horse thief?"
>
> "Blew up the goddam sewage 'sposal plant," said Al proudly.
>
> "'At's the shtuff! Give the friggin' worl' back to the friggin' people."[2]

Nor do would-be leaders of the revolution fare any better at Vonnegut's hand. They, too, have become incapable of mounting an effective resistance. Lasher, the radical preacher, seems to accept passively the idea that the revolution has failed: "The important thing is that we tried. For the record we tried!" Finnerty, the brilliant engineer who got Paul thinking about the need for a revolution, also seems to accept failure: "He had got what he wanted . . . a chance to strike a savage blow to a close little society that made no comfortable space for him." Granted, Vonnegut ends the book with Professor Von Neumann saying "This is not the end, you know . . . Nothing ever is, nothing ever will be — not even Judgement Day." But the enduring image is one of utter hopelessness, symbolised by Paul's final act:

> "To a better world," he started to say, but he cut the toast short, thinking of the people of Illium, already eager to recreate the same old nightmare. He shrugged. "To the record," he said and smashed the empty bottle on a rock.[3]

Are societies such as ours heading into the kind of situation Vonnegut depicts — one where automation has progressed to the stage where it has undercut the very virtues needed to make sure that the new technologies are used to benefit all citizens? There are parallels between Vonnegut's imagined society and ours that should give us pause for thought. In spite of assurances that everything will work out for the average citizen once the opportunities made possible by the new

technologies 'trickle down', more and more people are beginning to share the worries of Vonnegut's barber; *viz.,* that machines will take over all the 'good' jobs such as barbering and leave only the 'silly' ones.[4] And just as Vonnegut's displaced workers did not use their free time to do things like starting co-operatives or to catching-up on their education — they tended to hang around in bars doing things like trying to guess what song was being played on a soundless television set — so more and more of our people spend their afternoons trying to figure out who will sleep with whom in television soap operas.[5] But — and this will be the principal point of this paper — there is a crucial difference between Vonnegut's society and ours, one that provides a basis for hope. It has to do with the emergence since 1952 of the contemporary movements for racial and sexual equality. In Vonnegut's book, there isn't a hint of women or members of a racial minority banding together to challenge actively sexist or racist features of the *status quo.*[6] I will argue that when we update Vonnegut's account to include these important developments in recent history, new possibilities for resistance emerge. In particular, there emerges the possibility of an alliance between traditional worker constituencies and these other movements for equality.

To set the stage for this optimistic conclusion, I will consider in some detail two contemporary strategies for dealing with our present situation, neither of which assigns a central role to the movements for racial and sexual equality. The first, developed by David Noble in *Present Tense Technology,*[7] amounts to a call for a new Luddism on the part of traditional worker constituencies. To Noble, the attitudes toward technology that presently paralyse workers and their supporters can be challenged and worked through only if workers follow the lead of the nineteenth century Luddites and militantly resist capital at the point of production — and they must do this before capital uses the new technologies to completely consolidate its position. The second strategy, put forward by Andre Gorz, in *Farewell to the Working Class,*[8] urges critics of the present order to abandon the belief that traditional worker constituencies will be the key to ushering in a more humane social order. Instead, we should look to those who, like the much-maligned 'hippy' of the 1960s, are "allergic to work", and who no longer base their identity on a traditional nine-to-five job. Only such a "non-class of non-workers" can provide a countervailing force to the "productivist ethos" that presently keeps automation from being used to create a "society of free time."

My aim in the first part of this paper will be to convince the reader that while there is something important to be learned from both authors — from Noble's emphasis on building on *present* interests of those who are directly affected by current uses of automation, and from Gorz' emphasis on criticising conservative tendencies of workers — neither strategy is adequate by itself. Indeed, I will argue that when we juxtapose the insights of Noble and Gorz, the automation issue presents us with a particularly bothersome instance of an old problem. That problem,

very roughly, is how to avoid utopianism — where a vision of the future floats above history unrelated to present interests, without relapsing into conservatism, where present interests, and the possibilities they suggest, simply reflect how our interests have been distorted by daily life under a problematic *status quo.* In the final sections, I will argue that this problem could be solved if traditional workers were to enter into an alliance with the movements for racial and sexual equality even though the present interests of the latter don't seem to point in the same direction as the present interests of traditional worker constituencies. I will suggest that an alliance which put the historically conditioned interests of women and racial minorities on an equal footing with those of traditional workers would generate an approach to automation that engages the present interests of enough people to escape the charge of utopianism, while at the same time forcing each constituency to reflect critically on the interests and attitudes it initially brings to the alliance. This last, I will go on to suggest, would minimise the likelihood that the alliance's approach to automation would simply reflect the damaging effects of life under a problematic *status quo.*

II.

> The rejected workmen, in the blindness of their ignorance, instead of rejoicing at these improvements in arts so beneficial to mankind, conceived themselves to be sacrificed to improvements in mechanism. In the foolishness of their hearts, they imagined that the maintenance and well-doing of the industrious poor were objects of greater consequence than the enrichment of a few individuals by any improvement in the implements of trade which threw the workmen out of employment and rendered the laborer unworthy of his hire.
>
> Lord Byron on the Luddites[9]

To Noble, "There is a war on, but only one side is armed." The new technology provides capital with both a material and a symbolic weapon. As a material weapon, it allows capitalists to "steadily advance upon all remaining vestiges of worker autonomy, skill, organization, and power in the quest for more potent vehicles of investment and exploitation." As a symbolic weapon, the new technology allows capitalists to "launch a multimedia cultural offensive designed to rekindle confidence in 'progress' . . . to announce anew the optimistic promises of technological deliverance and salvation through science." Meanwhile, the opposing forces — labor and its friends — take refuge in "alternating strategies of appeasement and accommodation, denial and delusion, and reel in desperate disarray before this seemingly inexorable onslaught — which is known in polite circles as 'technological change'."[10]

What accounts, Noble asks, for this apparent helplessness on the part of workers and their supporters? His answer is that this paralysis is not simply due to capital's awesome power, nor to sheer fear on the part of workers. It is also due to a confusion about the nature of technological

development. How can the opposition begin to work through this confusion? This is Noble's principal concern and it is what gives rise to his call for a new Luddism.

Noble argues that workers and their supporters have become confused about the role of technology because they have allowed the technology question to be removed from the point of production, from the lives of workers who confront the new technology on a daily basis:

> Without a firm grasp of reality based upon experience, they have become abstract in their thinking, and more vulnerable to the ideas of others. (It must be emphasised that this is not a matter of individual integrity or weakness but rather a powerful cultural phenomenon that has influenced everyone.) The impotence and ignorance resulting from the . . disqualification of people at the point of production, moreover, have manifested themselves in profound intellectual confusion about the nature and promise of technological development itself. Abstracted from the point of production, and therefore from the possibility of a genuinely independent point of view, the opposition's own notion of technological development has come to resemble and ratify the hegemonic capitalist ideology of technological necessity and progress.[11]

The Luddite experience is relevant today because it provides a model for returning the technology question to the present tense, to the actual lives of those most profoundly affected. This does not mean that Noble credits the 19th century Luddites or the contemporary worker with a "superior sophistication at dialectics". His point, rather, is that only those who directly suffer due to technology will be able to resist the mystification of political struggle under the banner of technological progress. Noble realises, of course, that any appeal to the Luddite experience will be problematic, to say the least. In fact, he stresses that even the Left has been pulled into a negative assessment of the Luddites:

> The term "Luddite" became an epithet, a convenient device for disparaging and isolating the occasional opponent to progress and a charge to be avoided at all costs by thoughtful people. For to be called a Luddite meant that you were not really serious. It meant that you believed that you could stop progress . . . It meant that you were crazy.[12]

Thus, Noble begins his essay by challenging received interpretations of the Luddite movement. He cites a number of revisionist historians who have tried to redeem the Luddites by showing that their resistance was not only quite rational, but widely supported and successful in awakening the class-consciousness of workers. To dismiss the Luddites because they failed to stop the Industrial Revolution would be to miss the point. What makes them relevant today is that they were:

> able to perceive the changes in the present tense for what they were, not some inevitable unfolding of destiny but rather the political creation of a system of domination that entailed their undoing. Furthermore, they were able to act decisively and not without some success when measured in terms of a human lifetime — to defend their livelihood, freedom and dignity.[13]

It is important to note that Noble differs with some revisionist historians who, while arguing for a more favourable interpretation of the Luddite movement, would downplay its machine-smashing aspect. Instead, he agrees with those who have suggested that machine-breaking was central to the movement, that it "constituted a strategy of mobilization for the workers." Thus, when he attempts to apply the lessons of the Luddite experience to the present day, Noble does not rule out contemporary equivalents of frame-smashing. Consider for instance, his assessment of the 1975 raid on the pressroom of the *Washington Post,* where pressmen, whose jobs were threatened by the introduction of computerised 'cold type' technology, smashed the *Post*'s presses. To Noble, the lesson to be learned from this case is not that the *Post* pressmen were driven to 'excesses' by the futility of their plight, but that their action signalled a beginning of new, more effective forms of resistance. To Noble, the pressmen may have been not behind their times but ahead of them. Indeed, Noble suggests recent developments have made "other such predawn raids all the more necessary, promising, and likely." The increasing homogenisation and integration of industry brought about by capital mobility and the diffusion of computer-based communications and control technologies "have created a basis for the growth of an identity of interest across industries and workplaces." Furthermore, the very technology that has extended capital's control has rendered it "more dependent on precarious systems and thus more vulnerable to worker resistance." Finally, this 'window of vulnerability' of capital will not stay open forever. More and more people are beginning to understand that "however weak it might be now, labor is at present more powerful than it is likely to be in the future." Noble's essay is full of examples of how less militant worker strategies failed in the 1960s and 1970s and how workers in advanced capitalist countries are turning to Luddite acts in the 1980s. As an example of this trend, he cites the case of Ulrich Briefs, an advisor to a German union who gave a talk calling for "soft sabotage" — where workers clog systems with extraneous information or overload it by simultaneous demands — and for "hard sabotage" — where he "explained in an understated way that computers do not like tea, coffee, Coke, or iron powder".[14] Noble finds it encouraging that strong rank and file support forced union leaders to rescind their decision to fire Briefs.

Let me close this all-too short review of Noble's strategy by noting that his focus on the present is not meant to deny the importance of articulating an alternative vision of the future. It is only to make sure that such visions do not float above history, unattached to the present interests of workers. Two passages, one at the beginning of his essay and one at the end, make this clear:

> The purpose here is to acknowledge, endorse, and encourage their (workers) response to technology in the present tense, not in order to abandon the future but to make it possible. In politics it is always essential to construct

a compelling vision of the future and to work toward it, and this is especially true with regard to technology. But it is equally essential to be able to act effectively in the present, to defend existing forces against assault and to try to extend their reach. In the absence of a strategy for the present, these forces will be destroyed and without them all talk about the future becomes merely academic . . .

It remains an essential task to develop alternative social and political visions, rediscover roads not taken, and recast science and technology according to life-enhancing criteria. This has always been and remains a central challenge for intellectuals. But care must be taken to ensure that such projections never *substitute* for present strategies, but serve rather to complement, inspire, and perhaps guide them. The danger is not utopianism — we still need utopia — but the confusion of the future with the present. If we cannot afford to abandon the future in our preoccupation with the immediate, neither can we afford any longer to concentrate upon the future and surrender the present. The two must be joined.[15]

III.

The freeing of time is a form of revolution insofar as it leads, almost automatically, to calling the productivist socio-cultural model into question . . .
From *The Revolution of Choosing Your Time Schedule*[16]

Gorz' discussion of the automation question is wide-ranging and complex, but the important points for our purposes are the following. First, the rush to automate within capitalist countries cannot be stopped, nor should this be our aim. Instead, we should use automation to create a "society of free time", where autonomously-chosen activity rather than wage-labour is the source of our self-identity. Second, the traditional worker is incapable of ushering in such a society. Third, there is emerging a "non-class of non-workers" which is capable of providing the historical force needed to set the stage for such a society.

To Gorz, automation cannot be stopped within a capitalist framework because "micro-electronics (of which robots are one applied example) has the previously unheard of characteristic of making it possible to economize not just on human labour, but on labour and capital at the same time." It allows you, if you are an employer, "to replace nine-tenths of your work force with machines — while paying less for these ultra-efficient machines than for the ones you used previously."[17] However, this does not mean that all is well with capital. Indeed, in *Paths to Paradise* Gorz argues that it is precisely because capital can now be so much more profitable that it has a problem: "For in a fully automated factory, the quantity of living wage labour drops toward zero, and so does purchasing power distributed as wages."[18] Granted, automation abolishes workers; but it also abolishes potential buyers. Gorz suggests that capital could respond to this problem in two quite different ways. First, it could allow a "South-Africanization" of society

to develop where permanently employed workers become a narrow social stratum and "where pauperism and overabundance of commodity goods and services go hand in hand, where organized society marginalizes and represses a dispossessed social majority: slum-dwellers in the shadows of skyscrapers precariously surviving on crime and the underground economy".[19] Alternatively — and Gorz takes this second response to be more likely in spite of the likes of Thatcher and Reagan — capital will see that profits have to be redistributed to allow commodities to be bought and to prevent the economy from collapsing:

> Consumption henceforth turns into a sort of social duty on a par with remunerative work: it is seen as one factor in the maintenance of social order, integrating and normalizing. Paid consumption of commodities is erected into a system of control. And it is towards this solution . . . that we are now moving.[20]

But — and this is central to Gorz' position on the automation issue — the crises in capitalism may be the key to avoiding Vonnegut's pessimistic scenario. It may allow us to take the first step toward a "liberated society, which Marx called 'communist', in which the necessary production of necessities occupies only a small part of everyone's time and where (waged) work ceases to be the main activity."[21] I will not try to spell out the details of Gorz' vision of the automated society.[22] Instead, I want now to turn to his case for saying that the traditional worker is incapable of ushering in such a society.

To Gorz, it is clear that a call for the abolition of work will not be acceptable to traditional worker constituencies:

> Automation will always be perceived by skilled workers as a direct attack on their class . . . Thus, their major concern will be to resist automation, rather than to turn its weapons against their attackers. Protecting jobs and skills, rather than seeking to control and benefit from the way in which work is abolished, will remain the major concern of traditional trade unionism.[23]

Nor is it a solution to call for a re-skilling of the productive forces so that *everyone* can find meaning in their work. This has become impossible in advanced industrial societies:

> Inevitably, as the process of production becomes socialized, the personal character of work is eroded. The process of socialization implies a division of labour and a standardization and formalization of tools, procedures, tasks and knowledge . . . It will never be a self-defined activity in which each individual or group freely determines the modalities and objectives of work and leaves its inimitable personal touch upon it. The socialization of production inevitably implies that microprocessors or ball-bearings, sheet metals or fuels are interchangeable wherever they are produced, so that both the work and the machinery involved also have the same interchangeable characteristics everywhere.[24]

But Gorz has an even deeper reason for not relying on the traditional working class as the agent of social change. It has to do with the fact

that contemporary technological power is essentially functional in character:

> It does not belong to an individual subject but to a function, to the place occupied by an individual within the organigramme of a firm, an institution or the state. The particular individual holding this or that functional position are always contingent, can always be called into question . . . Power never belongs to them nor emanates from them. It is an effect of the system. It is the result of the structure of a material system of relationships in which a law appearing to govern things subjugates people through the mediation of other people.[25]

Traditional worker strategies ignore the fact that as long as this system of functional power persists, the representatives of the proletariat will succeed only in producing the very same type of domination and, in their turn, become a "functional bourgeoisie". A new notion of revolution is needed:

> Taking power implies taking it away from its holders, not by occupying their posts but by making it permanently impossible for them to keep their machinery of domination running. Revolution is first and foremost the irreversible destruction of this machinery. It implies a form of collective practice capable of bypassing and superseding it through the development of an alternative network of relations.[26]

We need to see that no one can free herself *within* work: "The point now is to free oneself *from* work by rejecting its nature, content, necessity and modalities."[27] But this is also to reject the traditional strategy and organisational forms of the working-class movement. To Gorz it is no longer a question of winning power as a worker, but of winning the power to no longer function as a worker.

None of the above should be cause for despair for "in the place of the productive worker of old, a non-class of non-workers is coming into being, prefiguring a non-society within existing society in which classes will be abolished along with work itself and all forms of domination."[28] This 'non-class' encompasses all those who have lost their jobs due to automation as well as those whose capacities are under-employed as a result of the industrialisation of work: "It includes all the supernumeraries of present-day social production, who are potentially or actually unemployed, whether permanently or temporarily, partially or completely."[29] What Gorz finds attractive about this new 'non-class' is that, unlike the traditional working class, it has not been engendered by capitalism. Rather, it reflects a crisis in capitalism, a crisis due to the dissolution of the social relations of capitalist production — a process due to the growth of new technologies. This 'non-class of non-workers' plays no part in the production of society. It sees society's development as something external. Thus it sees no point in taking over the machine-like structure, nor of placing anything whatsoever under its control. What matters instead is to "appropriate areas of autonomy outside of, and in opposition to, the logic of society, so as to allow the

unobstructed realization of individual development alongside and over that machine-like structure."[30] Granted, Gorz admits that this 'non-class' is not yet capable of ushering in a society based upon the liberation of time. He admits that it is still a "fragmented and composite movement . . . by nature refractory towards organization." But — and here we see Gorz' emphasis on the future, its weaknesses are more than compensated for by its ability to prefigure a new social order; for "a different kind of society, opening up new spaces of autonomy, can only emerge if individuals set out from the very beginning to invent and implement new relationships and forms of autonomy."[31]

IV.

Any proposal for social change has to take seriously the tension resulting from the plausibility of each of the following claims. On the one hand, it seems that deep historical change must be grounded in the interests and attitudes of groups whose members do not perceive themselves as benefiting from the *status quo* (or, minimally, do not perceive themselves as benefiting as much as members of other groups). On the other hand, it seems that daily life under the *status quo* shapes the interests and attitudes of such groups so that radical alternatives cannot take hold in their lives. In short, when we try to develop a strategy for deep social change, we seem to be confronted with a dilemma: either our proposals become utopian — where a vision of the future is unable to engage the will of sufficient members of people here and now, or they become conservative in that they simply reflect how a problematic social order limits the very interests and attitudes we would use to motivate deep change. It should be clear from the preceding sections that Noble and Gorz attempt to resolve this dilemma in different ways. Thus, though Noble grants the need for a new vision of the future, his principal concern is with mobilising the present unhappiness of workers at the point of production. To be sure, he grants that this will not be easy in view of the tendency of workers and their friends to be taken in by a naive faith in technological progress. But when push comes to shove, Noble bets on the progressive potential of workers. The risk of utopianism is greater than the risk of conservatism. Gorz, however, believes history has discredited this broadly Marxian tendency to put one's trust in the progressive potential of workers. Instead, we must begin by granting that the interests and attitudes of traditional workers have become a key obstacle to radical social change. Admittedly, Gorz manifests some uneasiness about his new 'social agent'. Thus, he struggles valiantly to show that present interests of a wide range of people in advanced capitalist societies prefigure his 'society of free time'. They include not only the hippy, who may indeed be a marginal figure of the 1980s, but also the rapidly growing number of temporarily unemployed or underemployed. But are either of these responses

adequate? I think not. Indeed, when we juxtapose their ideas, the sense of dilemma grows even stronger.

Consider, first, Noble's faith in the efficacy of a modern-day Luddite movement. As we noted in Section II, he relies at least in part on the unifying effect of contemporary technology. It has created, Noble claims, "a basis for the recognition by workers (and, haltingly, by unions) of an identity of interests across industries and technologies."[32] Surely a sense of solidarity was one of the key factors in the successes of the 19th century Luddites, but this was made possible by a shared life outside the factory as well as within. To suggest that an equally effective worker unity can emerge when workers live in different parts of the city and work at widely scattered sites is surely problematic. Here Gorz' notion of an 'atomised mass of proletarians' seems more realistic. Gorz grants that things were different when there was a working-class culture, tradition and ethic, and workers were "not an oppressed, ignorant, uprooted and deprived mass." Then the working class had a stratum which occupied a position of "near hegemony among the mass of working people."[33] Not so today, when the bourgeoisie, through scientific management and automation, has "succeeded in destroying at root what consciousness the proletariat might have had of its sovereign creativeness."[34] Consider next Gorz' suggestion that a 'non-class of non-workers' is emerging as a truly critical historical force. To Gorz, it is just false that the demise of traditional jobs will make people passive. Instead, as people find new bases of self-respect they will become more combative: "The more people are capable of practical and affective autonomy, the less they are willing to accept hierarchical discipline and the more demanding they become as regards both the quality and the content of the work required of them."[35] Here Noble can be turned against Gorz. As Noble notes, it is not enough to show threatened workers new visions of the future, ones where there are better things to do than go to a traditional job. We also have to remember basic realities of power:

> The existing technologies reflect centuries of continuous development along a particular path, and the development of alternatives will similarly require years of reflection, research, and practical experimentation. It will not be possible to turn around the legacy of the Industrial and Scientific Revolutions overnight. Such fundamental changes are a vital political task, but what is to be done *now?* What good is a strategy for the future without a strategy for survival in the present? The appeal to alternatives thus diverts attention from the realities of power and technological development, holds out facile and false promises, and reinforces the cultural fetish for technological transcendance. In short, having overcome the ideology of technological determinism, the fatalism of the past, it flips immediately into fantasies of the future. Not only does this reinforce the hegemonic ideology of technical progress, but it still leaves the present essentially untouched.[36]

The problem seems to be that Noble expects too much from traditional workers and Gorz too little. Is there, then, a way of moving beyond the

impasse that seems to result when we juxtapose their strategies? I think there is, but to see it we need to say more about a shared shortcoming of Noble and Gorz — the failure to assign a central role to the oppositional forces represented by the contemporary movements for racial and sexual equality. Here one has to be careful. Gorz does not ignore feminism altogether. In fact, he acknowledges the ethical insights of feminism when he says, approvingly, "the qualities and values of women are becoming common to men and women, particularly, but not exclusively, among the post-industrial proletariat."[37] But he ignores feminism as an oppositional force. The same is true of his treatment of movements for racial equality. Again, it is their ethical insights rather than their oppositional force that is stressed. Thus, he lauds the Black Panthers for their early criticisms of the values of "the class of unionized, stably employed workers, protected by labor legislation and collective agreements."[38] He does not go on to call for a strategy of militant resistance that builds on the oppositional forces represented by black sit-ins, massive demonstrations, etc. Here again Gorz seems to have forgotten that the ethical insights of blacks and other racial minorities affected history only because they were grounded in militant oppositional strategies.

The failure to assign a central role to the movements for racial and sexual authority is even more glaring in Noble. This is especially surprising since Noble has promised a book where he will address the question: How does the historical evolution of technology reflect the inescapable fact of male domination of society?[39] It is almost as if Noble assumes that only traditional worker constituencies have interests that can motivate an effective resistance to job-destroying and job-deskilling uses of automation. If so, there is a strange agreement with Gorz, who, of course, gives this assumption a very different twist: for Gorz it is just because traditional workers care so much about traditional jobs that they cannot usher in a new social order.

I suspect that neglect of the oppositional force of non-worker movements by Gorz and Noble is attributable to lingering effects of the orthodox Marxist faith in the industrial worker as the key to radical social change. This is perhaps clearest in Noble, but it would also help to explain the vehemence with which Gorz attacks traditional workers. If one had never been tempted by the Marxist faith in workers as the sole agent of social change, if one had never thought that all domination (sexual and racial as well as economic) could be reduced to capitalist exploitation, then it would be unlikely that one would look so harshly on the inadequacies of the traditional worker. But regardless of the sources of this neglect of non-worker movements, it has two serious consequences for the matter we are discussing in this paper. First, it greatly restricts the historical force of any resistance to present uses of automation. Second, it robs traditional workers of a non-idealist basis for critically reflecting on their present interests and attitudes — something that is needed if worker movements are to transcend a purely reactive stance.

The first point should be fairly obvious. Imagine the gain in political power if workers (who, say, were striking in opposition to the automation of their factory) were joined on the picket line (and perhaps in the factory itself) by militant feminists and members of groups struggling for racial equality. The second point may not be so obvious. Yet consider what changes would have to take place in the attitudes of the average white male worker before women and minorities would be willing to support the former's strike. Clearly this would require a reciprocal willingness on the part of the white male worker to go into the streets in support of women's and minorities' causes. To be sure, this would take some hard negotiating between the groups, especially when women go beyond relatively mild demands (such as the demand for free child care) to demands for women's health centres that provide abortions in a supportive setting, and when racial minorities put issues like adequate housing in white areas and an end to police brutality at the head of their agenda. But that is just the point. Working together to mount an effective resistance to problematic uses of automation will require that all parties reflect critically on present attitudes and interests. But then we will have a strategy of resistance that avoids utopianism because it is based on the present interests of a wide range of groups (rather than on the interests of one rapidly shrinking group, the traditional worker), and which avoids conservatism because the needed co-operation will be forthcoming only if members of each group critically reflect on how their present attitudes and interests have been shaped by daily life in a problematic social order.[40]

V

Is it at all realistic to suggest that unemployed and underemployed women and racial minorities will band together with traditional worker constituencies around the project of resisting present uses of automation? Everything depends, of course, on whether the former constituencies will come to see that present uses of automation are subverting their central interests and that, therefore, they share a common enemy with the latter. What, then, can be said for this last claim? Here it might be helpful to note some truisms about how something, X, might come to be perceived as a common enemy by various constituencies, A, B and C. First A, B and C might share some central interest that X subverts. Second, A, B and C might each have a special interest — one not shared by the others — that is thwarted by X. When these truisms are applied to the automation case, they give rise to two distinct ways in which present uses of automation might become the 'cement' that holds together the envisaged alliance.

On the first way, the crucial questions are: (1) whether unemployed and underemployed women and racial minorities share a central interest with traditional worker constituencies; and (2) whether this central interest is thwarted by present uses of automation. What might such

an interest be? One suggestion that we should take seriously is that all of these constituencies have a need to work. Thus, for example, Sean Sayers has recently criticised thinkers like Gorz who suggest that the need to work is somehow the special province of traditional white male workers. To Sayers, all segments of our society have a real need to work insofar as advanced capitalism has led to a situation where "work plays a crucial and perhaps unparalleled psychological role in the formation of self-esteem, identity, and a sense of order."[41] In Sayers' view, this allows us to understand why the women's movement has always affirmed the need for women to work outside the home — even as they criticise the world of work as a 'man's world':

> ... the purely domestic role — no matter how fulfilling and productive aspects of it may be — is not a sufficient one for women in modern industrial society. This is the message of the main strand of the women's movement. Long ago, in this context, Betty Friedan talked of 'the problem that has no name'. But this problem does have a name, and that name is 'unemployment'. In the modern world, that is to say, women just like men have a need for jobs, for employment, for work.[42]

Similar points could be made in connection with chronically unemployed and underemployed racial minorities. They, too, have a real need to work. To say otherwise on the basis of the fact that such populations often do not manifest the kind of behaviour that we normally associate with the desire to work (carefully reading the employment wanted ads each night, going on a regular basis to employment agencies, etc.), is to overlook the point made by William Julius Wilson in his critique of those who blame minority unemployment on motivational deficiencies due to a 'culture of poverty'.

> Because the poor have fewer options, and because they lack the economic resources to fulfill their aspirations, they are forced to develop behavioral norms that diverge from mainstream areas of life, even though they still retain many of the aspirations and values of the affluent society.[43]

Suppose, then, it is granted that present uses of automation are decimating the jobs that have traditionally been filled by women and racial minorities.[44] Then we would have a case for saying that even though these constituencies might not be as immediately threatened by automation as traditional workers who face plant closings because of automation, they nonetheless face a serious long-term threat to their need to work. That is, there would be a strong case of the first sort for saying that present uses of automation constitute a common enemy for all of the diverse contemporary movements for equality.

Before I move on to the second way in which these diverse groups might come to perceive automation as a common enemy, let me say a word or two about how the unity sketched above would differ from that envisaged by the orthodox Marxist who claims that sooner or later all non-owning groups will come to see that the owning class is a common enemy. While this claim is attractive, it is much more abstract than the one made here. A shared recognition that all the movements for equality

have an interest in banding together as a class to overthrow the capitalist order may very well be the outcome of the kind of alliance called for, but the first step would be based on the more immediate perception that the shared need to work is subverted by present uses of automation. Thus, even though one might grant that this historically-conditioned need has served the interests of the owning class, and even though one might grant that when we fully understand why automation is being deployed as it is, we will have to refer to this fact, it does not follow that here and now these truths have what it takes to engage the will of the diverse movements for equality. But the latter is what we need for an effective resistance here and now.

It is interesting to note, by the way, that this worry about the abstractness of the orthodox Marxist basis of unity lies at the heart of some recent arguments for 'democratic socialism'. Thus, Joshua Cohen and Joel Rogers have argued that the Left has to adopt a more pluralistic approach, one that bases a unified struggle on a shared commitment to democratic values. Criticising the orthodox Marxist approach that attempts to base an alliance on shared class interests, they suggest that such a shared commitment to democracy "provides the basis for alliance among any number of groups or individuals who for different reasons are opposed to the existing structure of private advantage, but who have failed to achieve more than isolated political practice or episodic co-ordination''. They summarise their point as follows:

> The basis of democratic coalition-building is not the convergence of aims on any particular issue of advantage or gain, but the convergence of aims on securing a political order within which those particular claims can be addressed with mutual respect. To recognize such convergence is not merely to accede to another strategy of advertisement for the left, but the possibility of a strategy of principle. It is to accede to the principle of democracy itself.[45]

But — and this will provide an introduction to my second kind of case for an alliance around present uses of automation — one wonders if a shared commitment to democracy is not too abstract to engage the respective constituencies here and now. Ellen Wood makes this point from a Marxist perspective:

> Unless class politics becomes the unifying force that binds together all emancipatory struggles, the 'new social movements' will remain on the margins of the existing social order, at best able to generate periodic and momentary displays of popular support but destined to leave the capitalist order intact, together with all its defenses against human emancipation and the realization of 'universal human goods'.[46]

It should be clear from my discussion above that I think it would be a mistake to fall back at this point on the orthodox Marxist claim as to the primacy of class struggle. Still, Wood challenges 'pluralists' like myself to come up with a viable basis for unity. This, of course, is the point of focussing on present uses of automation.

It has been shown how it might be argued that a shared need for work might generate a perception that present uses of automation constitute

a common enemy. But what about the second route to such a perception? Are there interests, peculiar to each of the contemporary movements for equality, that can be shown to clash with present uses of automation. I think there are, although here I can only sketch the kind of case that will need to be made. Consider, first, the effects of automated systems on the decline of inner-city commercial areas. In my own neighbourhood, there have been massive changes in the food distribution system. This is not a reference to the demise of the family grocery. That went out about 15 years ago. Rather, I refer to the demise of the medium-sized supermarket that used to serve as an anchor for a neighbourhood. Based on my own experience as a long time board member of a local food co-operative, such stores found it impossible to compete with the lower prices of the new mega-stores that began to emerge three or four years ago. What made these lower prices possible? To a large degree it was the various types of automation employed. Not only were traditional stocking and inventory procedures replaced with computerised systems that required much less labour power, but the central check-out functions were also automated via scanning devices. (Most recently, this particular mega-store has reduced labour requirements even further by installing four check-out units that the customers operate.) These automated systems did not simply reduce the number of workers needed. They also reduced the required skill levels, opening the way for massive reliance on part-time workers, who, in the present political climate in America, have few rights. All this has adverse effects on the white working class families in my neighbourhood who have traditionally depended on such entry-level jobs. (Not all of their sons and daughters can go on to become 'computer whizz-kids'. Nor do most of them want to go into business since, given their socio-economic starting point, this typically means aspiring to manage something like a fast-food restaurant rather than a bank.) So this constituency has a basis for resisting this particular effect of automation.

But what about blacks and other racial minorities? They too need the kind of entry-level jobs that are being destroyed. Here I want to focus on an effect that is tied to a more specific interest of blacks, one that results from their struggle for equality in a racist society. Blacks in my area all agree that the erosion of stable, safe communities is at present the most serious threat to their struggle. This is reflected not only in such things as Jesse Jackson's critique of drug usage, but in the average black person's concern with increasing black-on-black crime. But how can one regain a safe community if all of the economic institutions that brought people out into the streets have moved on? How can a young person be encouraged to learn basic work skills rather than 'street cred' if there are no entry-level jobs in her or his own neighbourhood? In this way, then, automation has contributed to the demise of strong inner-city communities — something blacks of all political persuasions agree is a necessary condition for dealing with the problems of the growing black underclass. This argument could be

strengthened by showing how the push to automate older factories —
which often provided a stabilising force in inner-city neighbourhoods
— has provided white owners with an excuse to move their factories
to the suburbs.[47]

So far, the case has been developed against present uses of automation
in connection with the interest blacks have in maintaining stable and
safe neighbourhoods as a necessary precondition for an effective struggle
for racial equality. It seems to me that the argument can be extended
to apply to poor women of any colour. Consider the pressure welfare
mothers are currently experiencing to get a job. Set aside for the moment
the fact that the jobs just are not there (or if they are, they are menial,
dead-end jobs), and that the so-called 'training programmes' do not
educate people to compete for the better jobs. Many welfare mothers
I know might still take such jobs or enter such programmes if they could
be fairly sure their children would have a safe environment while they
were gone from the home. This is precisely what is lacking as whole
neighbourhoods are reduced to an endless series of taverns. Many
mothers I know do not want their kids playing outside after school for
fear that they will get hurt or be influenced by the wrong kind of people.
(One of the things I regret most about the demise of our food co-op
is that it provided children with a safe place to go for a treat after school.)
The point is that poor women, given their deep interest in providing
a safe environment for their children, have been adversely affected by
uses of technology that have contributed to the decline of inner-city
neighbourhoods.

Some concluding notes: I have not said anything about how
automation has differentially affected women and racial minorities in
other areas of life. I think it could be shown, for example, that similar
negative effects are resulting from the automation of more and more
aspects of health care. Again, I think of how two small clinics in my
own neighbourhood have had to close due to an inability to provide
the diagnostic techniques that have become definitive of 'good health
care'. Still, I would hope that the above, largely anecdotal, remarks are
enough to show that we should take seriously the possibility that present
uses of automation will come to be perceived as a common enemy of
the diverse contemporary movements for equality. I would also hope
that they are sufficient to show that those of us who are unhappy with
the *status quo* and who see these diverse movements as the key to
progressive social change, do not have to choose between falling back
on orthodox Marxist claims as to the primacy of class domination, on
the one hand, and seeking a basis of unity in a shared commitment to
'democracy', on the other hand. Instead, we can begin to identify ways
in which present uses of automation generate a common enemy in spite
of deep differences in the central interests of the various movements.
In this sense, the automation issue could be seen as the key to a
progressive political strategy that is neither reductionist nor idealist.

NOTES AND REFERENCES

1. Kurt Vonnegut Jr., *Player Piano*, Dell Publishing, New York, 1952, pp. 261-2.
2. *ibid.*, p. 283.
3. *ibid.*, p. 295.
4. *ibid.*, pp. 179-80. Here as in so many places, Vonnegut exhibits a remarkable prescience. His barber was sure that it would be only a matter of time before engineers would be able to robotise hair-cutting. Developments in Australia suggest he was right. Tremendous progress has been made of late in robotising sheep-shearing, a process that presents at least some of the same design problems as a robot barber.
5. For a recent account of how unemployment has negatively affected the use of 'free time' in a former mining community in Scotland, see Donald Leach and Howard Wagstaff, *Future Employment and Technological Change*, Kogan Page, London, 1986, Chapter 7.
6. In fact, one of the leaders of the attempt at resistance characterises the revolutionary project as getting back to basic values: "Men doing men's work, women doing women's work." (p. 259).
7. David Noble, 'Present tense technology', published in three parts in *Democracy*, Part I, Spring 1983, pp. 8-24; Part II, Summer 1983, pp. 70-82; Part III, Fall 1983, pp. 71-93. Republished as *Automation: Progress Without People,* Singlejack Books, San Pedro, Calif., 1989.
8. Andre Gorz, *Farewell to the Working Class: An Essay in Post-Industrial Socialism*, South End Press, Boston, 1980.
9. Byron's speech to the House of Lords is quoted at length in Noble, *op. cit.*, Part III, pp. 71-2. He also quotes Byron's even stronger defense of the Luddites, Ode to the framers of the Frame Bill', p. 88.
10. Noble, *op. cit.*, Part I, p. 8.
11. *ibid.*, p. 10.
12. *ibid.*, p. 24.
13. *ibid.*, p. 12.
14. Noble, *op. cit.,* Part III, p. 84. Noble goes on to relate a specific case, which he calls "one of the more innovative, and symbolic, acts of displeasure with the new technology", as follows: "In May of this year, a manager noticed that a word processor was not functioning properly. Upon closer inspection, he discovered that the screen and keyboard of the machine were saturated with urine. (Apparently, this readily available substance has the same effect on computer equipment as tea, coffee, Coke, and iron powder.) With characteristic paranoia, the Justice Department management collected a sample of the offending fluid and dispatched it at once to the Center for Disease Control in Atlanta, presumably in an effort to track down the resourceful operator. All they were able to learn, however, was that the subject was female and free of social diseases." (p. 86).
15. Noble, *op. cit.*, Part I, pp. 10-11; Part III, pp. 91-2.
16. Lawrence Cossé, (ed.), *The Revolution of Choosing Your Time Schedule*, Échanges et Projects, Paris, 1980. Quoted in Gorz, *op. cit.*, p. 137.
17. Gorz, *op. cit.*, p. 126.
18. Andre Gorz, *Paths to Paradise: On the Liberation from Work*, South End Press, Boston, 1985, p. 31.
19. *ibid.*, p. 31. Gorz develops the notion of a 'South-Africanization' of advanced capitalist societies in 'The American model and the future of the Left', *Telos*, 64, Summer 1985, pp. 117-21.
20. *ibid.*, p. 32.
21. *ibid.*
22. Gorz has many interesting things to say about how to maintain the proper balance between what he calls the 'sphere of autonomy' and 'the sphere of necessity'. While the sphere of autonomy, where "the individual is the sovereign author of actions carried out without recourse to necessity", should be prevalent, it cannot embrace everything. To deny this last leads to a "pseudo-morality" which "by seeking to

eliminate everything that cannot be produced, planned and controlled by sovereign individuals themselves, forces them into one of two equally untenable positions. In the one instance individuals pretend to work by their own free will realities which in fact are beyond their control and possible self-determination. Alternatively, by wilfully ignoring the outside world, individuals abandon all control over the way their ideal community is inserted into and utilized by the dominant social order''. Gorz, *Farewell to the Working Class, op. cit.*, pp. 93-4; see also Gorz, *Paths to Paradise, op. cit.* pp. 64-77.

23. Gorz, *Farewell to the Working Class, op. cit.*, pp. 6-7.
24. *ibid.*, p. 8.
25. *ibid.*, p. 53.
26. *ibid.*, p. 64.
27. *ibid.*, p. 67.
28. *ibid.*.
29. *ibid.*, p. 68.
30. *ibid.*, p. 73.
31. *ibid.*, p. 11.
32. Noble, *op. cit.*, Part III, p. 76.
33. Gorz, *Farewell to the Working Class, op. cit.*, p. 47.
34. *ibid.*, p. 46.
35. *ibid.*, pp. 86-7.
36. Noble, *op. cit.*, Part II, pp. 79-80.
37. Gorz, *Farewell to the Working Class, op. cit.*, p. 86.
38. *ibid.*, p. 68.
39. David Noble, *Forces of Production: A Social History of Industrial Automation*, Alfred Knopf, New York, 1984, p. xiv. It is worth noting that Noble passed up a chance to bring women into his oppositional strategy in connection with the case of computer sabotage mentioned in footnote 14. He might have pursued the significance of the report that the perpetrator was not only disease-free, but a woman.
40. The author develops the case for such an alliance in Carl G. Hedman, 'Making the social contract relevant', *Social Theory and Practice*, 13, 3, 1987, pp. 327-60.
41. Sean Sayers, 'The need to work', *Radical Philosophy*, 46, 1987, p. 18.
42. *ibid.*, p. 19.
43. William Julius Wilson, *The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy*, University of Chicago Press, Chicago, 1987, p. 183.
44. For a recent defence of this claim with regard to women see Diane Werneke, 'Women: the vulnerable group', in Tom Forester (ed.), *The Information Technology Revolution*, MIT Press, Cambridge, Mass., 1985, pp. 400-16. For a defence of this claim in connection with inner-city racial minorities, see Wilson, *op. cit.*, pp. 180-1.
45. Joshua Cohen and Joel Rogers, *On Democracy: Toward a Transformation of American Society*, Penguin Books, New York, 1983, p. 175.
46. Ellen Wood, *The Retreat from Class: The New 'True' Socialism*, Verso, London, 1986, p. 199.
47. For a good summary of the relation between such developments and the erosion of inner-city communities, see Wilson, *op. cit.*, Chapter 2.