

CHAPTER 8

Critique and Conclusion

A problem that I have once solved can no longer puzzle me; I cannot guess what I already know. Having made a discovery, I shall never see the world again as before. My eyes have become different; I have made myself into a person seeing and thinking differently (Polanyi 1956: 922).

8.1 Introduction

This book has considered how far Marx's approach to alienation helps theorise the experience of the participants within the various settings. Since the major analytical output arising from the research has been detailed at the end of each chapter, reprising those discussions is unnecessary. Instead, it would be useful to focus on the differences and commonalities evident across the settings and present them in a coherent overarching discussion by linking them more explicitly to the questions posed in chapter 1.

The first research theme focused on how valuable Marx's theory of alienation can be in explaining the experience of participants in three chosen separate settings related to ICT. Participants articulated significant adverse experiences that dovetailed with the categories described in Marx's theory of alienation related to product, process, relations with others, and one's self view. Moreover, the evidence indicates that for the participants in the settings, each of the categories is connected to and interdependent on the others. Thus, the alienated product is in an intimate relation with the alienated process thereby vindicating the first relation Marx argued exists between product and process. Although this is most clearly observable in the setting involving ICT professionals, it is also evident, perhaps on a more subtle level, with the scholars. For the SPAG participants, alienation over process – in this instance, the available software

How to cite this book chapter:

Healy, M. 2020. *Marx and Digital Machines: Alienation, Technology, Capitalism*. Pp. 123–135. London: University of Westminster Press. DOI: <https://doi.org/10.16997/book47.h>. License: CC-BY-NC-ND 4.0

and hardware, including output devices – had a direct impact on what they were able to achieve. The research associated with the SPAG setting emphasises the importance of using Marx's theory of alienation to investigate a non-work-related environment.

The evidence supports two further arguments crucial to Marx's version of alienation. By showing the interconnectedness of categories, at the vertical and horizontal levels, it emphasises the importance of adopting a totality of view and highlights the crucial need to link all the elements that characterise alienation when studying the condition. It emphasises the weaknesses of researching alienation from the positions advocated by either Seeman or Blauner or any of their derivatives. Further, the book offers substantial support for the perspective which applies notions of alienation in a much more rigorous manner than simply using the term as a shorthand for vague feelings of dissatisfaction, and buttresses the argument that researching alienation entails more than simply looking at job or role satisfaction. It also shows that alienation is more than a consequence of specific contexts. For the participants in these settings, the alienation they experience emanates from the general objective conditions, but it is manifested in their specific practical activity.

Secondly, as this book involved examining environments that were of a dynamic nature, it adds credibility to the view that alienation cannot be properly understood from research that focuses on a snapshot of an ongoing, complex process. Alienation is a constant feature and is experienced as a norm rather than as an aberration, undermining the work of those like Blauner, who maintain that it is possible to alleviate alienation through specific interventions, and the autonomist movement which seeks the resolution to alienation in autonomous non-alienated spaces. The evidence also underscores the point that researching alienation is not a philosophical matter, but one of real, practical life.

The second research question focused on how effective the explanatory power of Marx's theory is in identifying a commonality of experiences both within and between the three settings. The evidence and its subsequent analysis, while validating his theory, indicate that applying his perspective requires a concomitant appreciation of the importance of mediation for specific contexts. Once again, we are encouraged to place an emphasis on the relationship between totality, mediation and immediacy. However, we can only grasp these mediated expressions through empirical research that enables us to form concrete abstractions.

A comparison of the experiences of all three groups also shows that for each of the three settings, command of process by someone else was a major problem. In a working environment this was most keenly observable for the ICT professionals in that it rests very much at a surface level because of the mechanisms at play. However, the setting focused on the scholars also reveals that in conditions where it appears that greater control of the process exists, using

Marx's theory of alienation facilitates an exploration at a deeper level thus drawing out potentially hidden aspects of alienation forcing us to differentiate between appearance and reality. In the SPAG setting, alienation from process was evident in both immediate and remote senses: immediate in that in this case the management of the SPC had direct command over both the environment and the ICT facilities SPAG members were able to access, so much so that when participants discussed raising their concerns, it was the one time they did not want their comments recorded; remote in that, when they did seemingly have more command over the available technology, during the hands-on sessions for example, they found the nature of the technology itself threw up all manner of problems.

The third question asked to what extent Marx's theory can be of use in providing a framework for undertaking the research in the three settings, and sought to focus on the extent to which his theory of alienation could positively aid the research process. Marx's text of 1844 infused the spirit and practical work with which this study was undertaken in several ways. As well as identifying the core components of alienation, Marx continually refers to their impact on issues such as creativity, competition, collaboration, the essence of our humanity, and in our attitude to work under capitalism. Thus, the theory informed the study by: encouraging the pursuit of qualitative research; impacting on the nature of the questions asked during the interviews; influencing the decision to focus on more than one setting and to select contrasting settings; helping to establish the tone and structure of the hands-on sessions with SPAG; and motivating the choice of PAR. By doing so it provided a robust framework for undertaking the work associated with this study.

The theory provided a line of march which, although it did not foresee what particular problems were likely to emerge or what results would be revealed, encouraged a way of working that urged the study to delve deeper into the issues under investigation and to take the enquiry into unanticipated directions. The argument here is that the data obtained from this study and its subsequent analysis could not have been achieved if the study had relied on other theories of alienation. In short, there was an intimate interdependence between theory and practice. Although the significance and relevance of this book are yet to be determined, the feedback from the ICT professionals and members of SPAG as well as the discussion with scholars at conferences, indicates that this study does articulate and theorise their experiences. It tells their stories.

Having looked at research questions one, two and three, the discussion will consider the last question posed at the start of this book. This question concentrated on to what extent PAR, linked to critical realism (CR), can make a positive contribution to research of this nature. PAR offered possibilities for creating strategies for coping with alienated experiences linked to ICT. This was certainly the case for the SPAG setting where participant decision-making featured quite significantly in the research activity. Here the process worked

quite well but it must also be noted that as the data generated and subsequent analyses show, PAR cannot of itself resolve the fundamental contradiction at the heart of ICT, and consequently it is unable to alleviate the alienation associated with the technology. However, employing the technique revealed that encouraging a cooperative, non-competitive environment brought to the surface a glimpse of the possibilities this way of working could fruitfully offer. The use of PAR had benefits for most of the participants in this study and therefore its impact went beyond satisfying the immediate needs of this research. For the SPAG participants, it resulted in the creation of an ICT training course which confronted the alienated experience often associated with such activity and several tangible results including a campaigning YouTube video. For the ICT professionals it resulted in a briefing paper that was initially circulated to all the participants in that setting and subsequently to ICT trade unionists. In the case of the scholars, evoking the spirit of PAR led to a discussion on alienation at an ICT ethics conference and academic seminars. Thus, adopting PAR enabled the study to result in a positive and productive experience for the researcher and the participants in the research.

Using Marx's theory of alienation to undertake and complete one research study, in one language, shows that it offers real potential compared to other approaches, but that potential has to be constantly reaffirmed by a continuous testing of Marx's theory to prove its validity. Here Engels' comments that nothing is 'final, absolute, sacred' seem particularly pertinent (Engels and Marx 1941: 12). Until that happens, the results presented in this book must be categorised as provisional and we should be cautious of all attempts to draw definitive and final conclusions from any piece of given research and results must always be considered as fallible. It would also be foolish and arrogant to ignore and acknowledge that much good work concerned with the societal implications of ICT is undertaken without embracing the perspective advocated here. As Wright remarks:

The Marxist tradition is a valuable body of ideas because it successfully identifies real mechanisms that matter for a wide range of important problems, but this does not mean it has a monopoly on the capacity to identify such mechanisms (Wright 2009: 101).

That there are innumerable practitioners across a broad array of activity who recognise and seek to reconcile the contradictions of our digital life shows the depth and breadth of those contradictions. While acknowledging there is a deep well of knowledge in the subject area from which researchers could draw and examine from a shift of perspective, such work would encounter major difficulties. The first comes from the reluctance of academics, because of the alienated environment within which they work, to share their research data. Data can be obtained through open access sites such as the SSRC, ESRC or the UK

Data Service but these are not always easy to access and often do not include either sound files or transcripts of structured, semi-structured or unstructured conversations such as interviews or focus group sessions.

The second difficulty arises from the issues associated with the drive to produce original research so that it has a better chance of being published. The notion that existing data should be re-interrogated using a different *critical* perspective does not fit snugly with the imperatives of research assessment exercises nor with the priorities of the dominant research philosophy and with funding bodies even if such work was to be beneficial and illuminating. We are here reprising some of the themes discussed in chapter 5. This poses a problem for scholars involved in this work because it would require challenges to the straitjacket of conventionality and a focus on questions associated with power and the role of those researching alienation. Perhaps research using PAR could tease out coping strategies academics could use to confront and rebut, if unable to solve, the alienation they experience. The SPAG example could be instructive in undertaking such a task.

Chapter 4, concerning the ICT professionals, pointed to the paucity of qualitative research that engages with this group in a collective environment. Issues such as the application of project methodologies, the control the professional (and indeed the profession as a whole) has over the industry, the rapid commodification of skills such as programming, software maintenance and testing, and business processes, could all benefit from using Marx's theory of alienation. Research that takes as its focus the role of the ICT professional in promoting the ethical use of ICT could benefit from a shift of perspective that sees the professional as one in command to a view of the professional as someone who is powerless and who cannot determine what they make, nor for whom or how it gets made. Research could also investigate what coping and resistance strategies they employ to deal with their alienated condition. Further research using theories of alienation and PAR would provide deeper insights into the problems ICT professionals face such as, for example, the contradiction discussed in chapter 6 between what they feel about their occupations and what they would do if given the opportunity to quit their jobs. Research on ICT professionals vigorously embracing Marx's theory of alienation would enable it to move beyond the straitjacket of, and the inadequate categories associated with, job satisfaction thereby offering a greater explanation for, rather than a description of, the conditions in which ICT professionals work.

A similar approach could be undertaken with scholars which could include investigating how academics are seeking to use ICT to counter the problems they face. Here, research could cover a number of areas such as how the development of online open access journals is being used to offset the growth of academic publishing houses; the degree to which such developments confront alienation; and the possibilities of drawing together ICT professionals and scholars researching ICT into an ongoing conversation on alienation. Further

research could target different groups of scholars focusing on, for example, age or gender. The evidence concerning academics has implications relating to the research agendas they follow, the way in which their work is published, the way they work with partners – be they other academic institutions, funding agencies or other academics – and the subtle ways in which self-censorship impacts on the products and processes of research. As was argued in chapter 5, scholars operate in a condition of alienation which, whether consciously or not, influences how they work. As a result, a contradiction exists between what many scholars would like to do and what is possible given the determining influence of capital's overarching needs on the direction of scholarly activity.

Of relevance here is the mention made in chapter 2 about the ongoing debates surrounding the ideas of Hardt and Negri and Holloway, and the reference made in chapter 5 about the developments in making research outcomes more freely available. These are part of an attempt to resolve the contradiction that has, to some extent, resulted in a healthy discussion on unalienated spaces such as an 'academic commons' and the development of critical pedagogy which 'asks whether open higher education can be (re)claimed by users and communities within specific contexts and curricula, in order to engage with an uncertain world' (Hall and Winn 2010) and to what extent ICT can play a role in this process (Hall 2013). The evidence in this book feeds into this discussion but emphasises several relevant issues related to alienation. The first is that scholars need to be consciously sensitive of the alienating conditions within which they undertake their activities and appreciate the extent to which these touch upon the outcomes and processes of their work. This could take the form of a problem: does the thing I am doing, contribute to or resist, my alienated experience and that of others?

A question must also be asked about whether it is possible to reclaim HE particularly when such an ambition relies on the use of technology which is both the product of and a contributor to the alienation experienced by scholars. In answering this problem, a potentially more fruitful avenue of enquiry could be explored: to what extent can those confrontations with alienation (Preston and Aslett 2014) feed into creating an education system devoid of alienation altogether and what actions are required to achieve such an ambition?

For the third group of participants, the research focused on the interaction older adults have with ICT and indicates that similar work could make good use of alienation theory to examine the relations determining use of the technology. One aspect not covered by this study could consider the different ways, if any, that seniors, women, men and non-binary approach ICT. Similarly, it would be useful to undertake research employing Marx's theory of alienation, particularly within a PAR framework, to explore whether there are any differences between different generations' ICT usage; one can imagine the dynamic and invigorating experience of running computer hands-on sessions involving participants from the range of generations. The evidence presented here indicates that collective, shared and, most importantly, user-owned projects

based on PAR and embracing sensitivity to the alienated experiences of ICT use would be a favourable way to inform both technical development and end-user training. However, such a process needs to foreground the causes of alienation relating to ICT, and training programmes should be designed acknowledging alienation exists and then implemented within an environment that consciously seeks to confront the condition. The evidence from the setting also underpins the view that learning of ICT should be highly flexible in terms of topics (both technical and non-technical) covered; be deeply inclusive in the degree and nature of involvement of the participants in setting and achieving training objectives; appreciate that trainers need to continually reassess their own role in the learning process; recognise that issues related to alienation will impact on the process of learning; and that expressions of alienation will constantly come to the fore both with the trainers and the learners. This links back to the discussions above concerning the activities of academics and ICT professionals.

Looking beyond the groups embraced by this study, there has been some recent research that applies alienation theory to social media and while much of this work has been at a theoretical level, it could be used, in a PAR environment, to examine phenomena such as fan activism associated with 'My Drunk Kitchen,' Hank and John Green's VlogBrothers video channel on YouTube, or the success of sites such as Avaaz.com.

8.2 A Moment of Self-Reflection

Research projects must develop their own form of self-criticism and a critique of this research focussed on two key questions:

- To what extent did the selection of the participants and organisations provide what may be termed a self-fulfilling role in the research (i.e. did their selection pre-determine the research outcomes) and have the processes used in the selection of participants had an adverse impact on the research by way of creating a bias?
- To what extent are the participants representative of wider social groupings?

Participants from the three groups came to the research programme with several criticisms of ICT and its role in society. This is hardly surprising since almost everyone who uses ICT has a view, but the participants' criticisms were not informed by any theoretical approach to alienation. The group of ICT professionals had a sharp appreciation of the issues when discussing ICT and were aware of systems failures and the implications for end-users – after all it is their job to develop, test and implement a wide range of IT systems. Nonetheless, during both the group session and the individual interviews, it became

clear that they were not familiar with the theories associated with alienation in general, or as they related to their own work experience. The academics researching ICT and ethics and/or the societal impact of the technology do draw upon theories or create a specific theory in their scholarly activity to explain phenomena. However, the email exchanges in preparation for the interviews and in the opening remarks of the interviews indicated that none had a familiarity with the approach adopted for this research. With SPAG, as was seen in chapter 7, criticism of the technology was couched in everyday language and exhibited an air of fatalism if things did not go quite the way that was planned. At the beginning of the research involving SPAG, participants perceived that practical problems they experienced were their fault rather than arising from the actions of others, such as software or hardware designers. The choice of organisations and participants did not, therefore, create a self-fulfilling function or built-in bias in terms of the topic and approach adopted in this research.

One of the reasons three different settings were selected to undertake this study was precisely to avoid the problem of what we might term the 'isolation' of research activity and the subsequent problems of inapplicability in otherwise different environments. However, the convincing analyses arising from the data confirms that the data has a high degree of integrity. Further, the profiles and range of the participants offers the possibility of resonance with wider, similar populations (Tracy 2010). Furthermore, sending initial findings of the research to their respective participants in each setting allowed for member validation thereby further strengthening the robust nature of the data. Another strength of this research is that it did not rely on one or two scenarios with which to investigate alienation and ICT. By opting for three settings, it buttressed its findings by providing a triangulation for validity. Hopefully, the stories in this book will touch a chord with many who have a problematic relationship with ICT, who are deeply frustrated with the technology. If you are one of those, this book should tell you it is not your fault. One major regret is that it was not possible, because of financial, logistical and temporal restraints, to create a collective group-based investigation consisting of ICT professionals, academics and pensioners. The ideal scenario would have been research on a common theme conducted in a PAR environment involving two groups with members from each of the three populations targeted for this study. The technical capability to achieve this is currently available but it would require substantial resources to establish and sustain such an activity.

8.3 Concluding Remarks: Resolving the Problem of Alienation

This book reasserts the importance of Marx's theory of alienation compared to that of Seeman and establishes the benefit of embracing alienation as a total concept. Seeman's approach to alienation was designed to weaken the undoubtedly major conceptual breakthrough Marx made when he developed his theory

of alienation and to sideline the fundamental, transformative implications of Marx. Moreover, by developing a critique of Blauner and providing a method of researching alienation that corrects the errors in his work, this book has demonstrated that researching alienation cannot simply be about job satisfaction or any of its variants. The Seeman perspective sees alienation as an individual intellectual problem and is therefore essentially an idealist utopian struggle to bring harmony into an environment inherently riven with conflict and disharmony. It seeks to reconcile the irreconcilable. It is a Sisyphean task with a twist. At least Sisyphus made it near to the top of the hill where he had the potential to indulge in a panoramic view, for those following Seeman, they barely make it halfway up. The Marxist approach to alienation seeks to do the opposite: it wants to delve deep into our heterogeneous and contradictory reality and to break it down until it reveals the disharmony and conflict which is the root of our alienation. This study has engaged with researching alienation in specific circumstances and has sought, in Marx's words, to 'descend from the realm of speculation into the realm of reality' and to move from what we imagine ourselves to be and to engage with the reality of our practical lives (Marx 1970:104). Marx's theory of alienation raises questions of practical activity: what is it that we do that creates alienation and what is it that we can do to eradicate the condition? It is possible to adopt a more effective theoretical and methodological route compared to the dominant scholarship concerned with researching alienation and ICT. Both the processes used to undertake the research that formed the basis of this book, including the use of different settings, and the findings obtained should encourage those who have profound disquiet about the way alienation and ICT are currently researched and who are seeking an alternative direction. I will not assert that the processes I have followed are the only way to undertake such research, but I strongly argue that Marx's theory of alienation offers much greater explanatory power than any other current theoretical approach. The research that underpins this book challenges the widespread assumptions about end-user experience of ICT, at whatever skill level, and offers new insights into the much-mentioned but little understood and often loosely defined alienated and contradictory way we experience ICT.

It is customary in conclusions of research concerned with alienation and ICT to include several policy recommendations (see Blauner 1964: 196) that can be implemented by organisations such as governments, educational institutions or commercial enterprises. This happens for two reasons. Apart from the problematic way alienation is studied, and considered as an anomalous and deviant condition, there is intense pressure to undertake research that is predominately directed by, undertaken for, funded by and inspired by needs of capital and/or state structures. The worth of research proposals and consequent academic research is measured by how effective it is in supporting the primary objective of capital – to make profits – and what policy initiatives can be constructed to facilitate this process. In the words of the UK's Research Excellence Framework: what is the benefit of research to the economy, society, culture, public

policy or services, health, the environment or quality of life: what is the impact factor? There is nothing in the evidence or conclusions presented here that can have any positive benefit for either capital, the state or hierarchical management. It shows that alienation is not an anomalous condition applicable only to the three settings selected for this study but indicates the experience of the participants has a resonance, in one way or another, with all of us. Alienation is a universal feature, embedded in the fabric of capitalism itself and is one where capital is both the cause and the beneficiary. As Marx says, the 'worker exists as a worker only when he exists for himself as capital; and he exists as capital only when some capital exists for him. The existence of capital is his existence, his life' (Marx 1970b: 120). Similarly, for capital, the ICT end-user seniors exist only as consumer of its products. Without alienation, capitalism would cease to function since alienation arises from the contradictory relation between labour and capital, and impacts on all spheres of life.

For Seeman, amelioration of alienation is realised within the specific instance through, for example, fashioning better working conditions, appropriate policies or more effective training programmes, the aim being to help capital manage abnormal or deviant behaviour. For Marx, since alienation is generated by and reinforces the relationship between capital and labour, ultimately alienation can only be eradicated by the abolition of that relation thus requiring a radical transformation of existing economic, social and political structures. Marx sees three aspects contributing to this resolution, the first being the need to abolish private property 'which is expressed by labor, capital and the relations between these two' (Marx 1970b: 126) and through which the expansion of industrial capital has completed its 'domination over man and become, in its most general form, a world-historical power' (Marx 1970b: 131). Secondly, he argues that the possibilities for such change are created by capital itself in its universalising propulsion (we are all alienated now). Marx argues that since it is labour that creates and recreates its own alienation, it gives labour the power to resolve the problem of alienation for several reasons. Firstly, it is labour that creates capital; thus, it has potential power, and secondly because the relation between labour and capital is conflictual, there are continuous confrontations between the two. These confrontations, which can initially be aimed at quite practical issues, begin to raise more general political questions. Marx here cites the resistance to the ten-hour working day and the impact it had on workers. 'Thus, the movement of the working-class on both sides of the Atlantic... had grown instinctively out of the conditions of production themselves' (Marx 1970a: 310). Finally, in this process, the worker is changed:

For 'protection' against 'the serpent of their agonies,' the labourers must put their heads together, and, as a class, compel the passing of a law, an all-powerful social barrier that shall prevent the very workers from selling, by voluntary contract with capital, themselves and their families into slavery and death (Marx 1970a: 302).

Marx uses the struggle for the ten-hour working day as a concrete practical example of how capitalism provides the environment for workers to comprehend and confront their alienation. In our own time, we can see the how the struggle for an eight-hour day in China's high-tech industry forces workers to challenge the assumptions and practices of high-tech employers (Stanier 2019). The Sudanese revolution of 2019 which started over the basic ability of people to obtain bread, quickly developed into a challenge to existing Sudanese political structure and economic priorities. The *Gilets Jaunes* movement in France has been forced to recognise the oppressive power of the French state and developed into a much wider confrontation concerning pensions involving the organised working class. The democratic movement in Hong Kong has learned to move beyond the removal of the extradition law to demand more fundamental democratic rights. In the *Manuscripts*, Marx emphasises the resolution to alienation is not 'merely a problem of understanding, but a *real* problem of life' (Marx 1970b: 142) that can only be realised through 'the practical energy of man' (Marx 1970b: 141). When alienation is confronted and challenged the process can develop into political action targeted at private property. Further to the political priorities of theory and propaganda evident when politicised workers associate with each other, Marx argues the process of challenging the drivers of alienation is one that also undermines two of its components, namely of competition between workers and self-alienation:

[this] alienation... can, of course, only be abolished given two practical premises. For it to become an 'intolerable' power, i.e. a power against which men make a revolution, it must necessarily have rendered the great mass of humanity 'propertyless', and produced, at the same time, the contradiction of an existing world of wealth and culture, both of which conditions presuppose a great increase in productive power, a high degree of its development (Marx 1970b: 56).

For Marx, the circumstances that create and continue the alienated condition are also those which offer the possibility of its demise. Marx is referring to the role alienation can perform in a transitory process: alienation is both an oppressive and facilitating condition. Marx's view of alienation is overtly political but, unlike Seeman's perspective which is disguised behind rhetoric designed to defend and buttress the status quo, Marx is quite open and honest about his approach. The politics of alienation can be likened to a root fire which burns and travels underground along tree root systems and resurfaces at multiple points some distance from their point of origin. Seeman's view is concerned with firefighting individual occurrences of alienation as they appear on the surface, whereas Marx recognises the need to tackle the whole site, roots and all.

A further strength of Marx's approach enables us to see the shared alienated experience of people who may appear to have no common interests. One example will suffice to illustrate this point. The Chinese high-tech programmers

working twelve hours a day, six days a week have responded to their conditions by collectively naming and shaming those companies who demand, indeed celebrate, long unsocial hours irrespective of the extremely negative consequences on their workers. In their specific circumstances, these programmers must adopt a degree of secrecy to progress their demands, yet because of their working conditions they know action is required on a collective basis. Compare this to video game programmers in the United States and the Britain who are now openly unionising to oppose the harsh working conditions. ‘Work weeks in the game industry can stretch to as long as 100 hours during what are known as crunch periods — in which entire studios race to meet crucial deadlines — sometimes with no overtime or time-off compensation and often with little to no regard for employees’ long-term well-being’ (Statt 2018). Three different groups of ICT workers working in differing cultural environments, geographically separated by thousands of miles, respond in the same way. The Marxist approach, by drilling down to reveal the fundamental capital-labour relations each group experiences, enables us to see why they react in a similar fashion but also understand why, through mediation, their concrete practical actions may differ.

This leads back to the argument made by Marx in the *Manuscripts* in his discussion about private property when he argues that:

The positive transcendence of *private property* as the appropriation of *human* life, is therefore the positive transcendence of all estrangement – that is to say, the return of man from religion, family, state, etc., to his *human*, i.e., *social*, existence. ... economic estrangement is that of *real life*; its transcendence therefore embraces both aspects (Marx 1970b: 136).

For Marx, the ‘transcendence of private property is therefore the complete *emancipation* of all human senses and qualities’ (Marx 1970b: 139). This comment is further evidence of Marx’s view that alienation impacts on all aspects of life. For Marx implicit in the abolition of private property is the ‘destruction of the alien relation between men and what they themselves produce’ (Marx and Engels 1970: 53). The evidence presented here is supportive of this persuasive line of argument and an inevitable conclusion is that ultimately the only way to eradicate the alienation we experienced in using ICT would be to take the ownership, development and application of the technology out of the control of capital and put it under communal control. Such a practical measure may not be to the liking of those who currently own the technology and significant problems would be encountered in attempting its implementation. Those in positions of power are unlikely to go quietly into the night but neither are the deep contradictions associated with ICT. The research covered in this book verifies the genesis of the contradiction between what the technology *can* deliver and what it actually delivers and why that contradiction creates a

situation where people see digital technologies as threads of barbed wire running through their lives.

The networks that bind us together in resisting the contradictions of our digital lives do not exist in some intangible digital space but are made up of human beings, like the 996 movement in China (Kuo 2019), the video game designers, or the students who have protested the use of inequitable algorithms to determine academic grades, who are required to confront real practical problems.

These networks consist of people continually arguing about their situation and the best way we can challenge our alienation in a collective environment. To paraphrase Antonio Labriola (2005), ideas do not float down to us from some digital heaven or arrive via some cybernetic dream to arrive in our Twitter, Facebook, Instagram or Snapchat home pages. They are the result of the interplay of human action and an ever-changing objective world. Our interaction with increasingly sophisticated digital products should not distract us from seeing the underlying fundamental relations that persist in capitalism. Like Dorothy in *The Wizard of Oz*, we should demand and strive to know what is behind the curtain.

This book will have served its purpose if it encourages ICT professionals, scholars and end-users of ICT to take practical steps to challenge alienation and to see that challenge as the start of a process concluding in the elimination of the alienation so deeply rooted in our digital lives. Perhaps it is appropriate to give Marx the last word:

Our concern cannot simply be to modify private property, but to abolish it, not to hush up class antagonisms but to abolish classes, not to improve the existing society but to found a new one (Marx 1973b: 324).