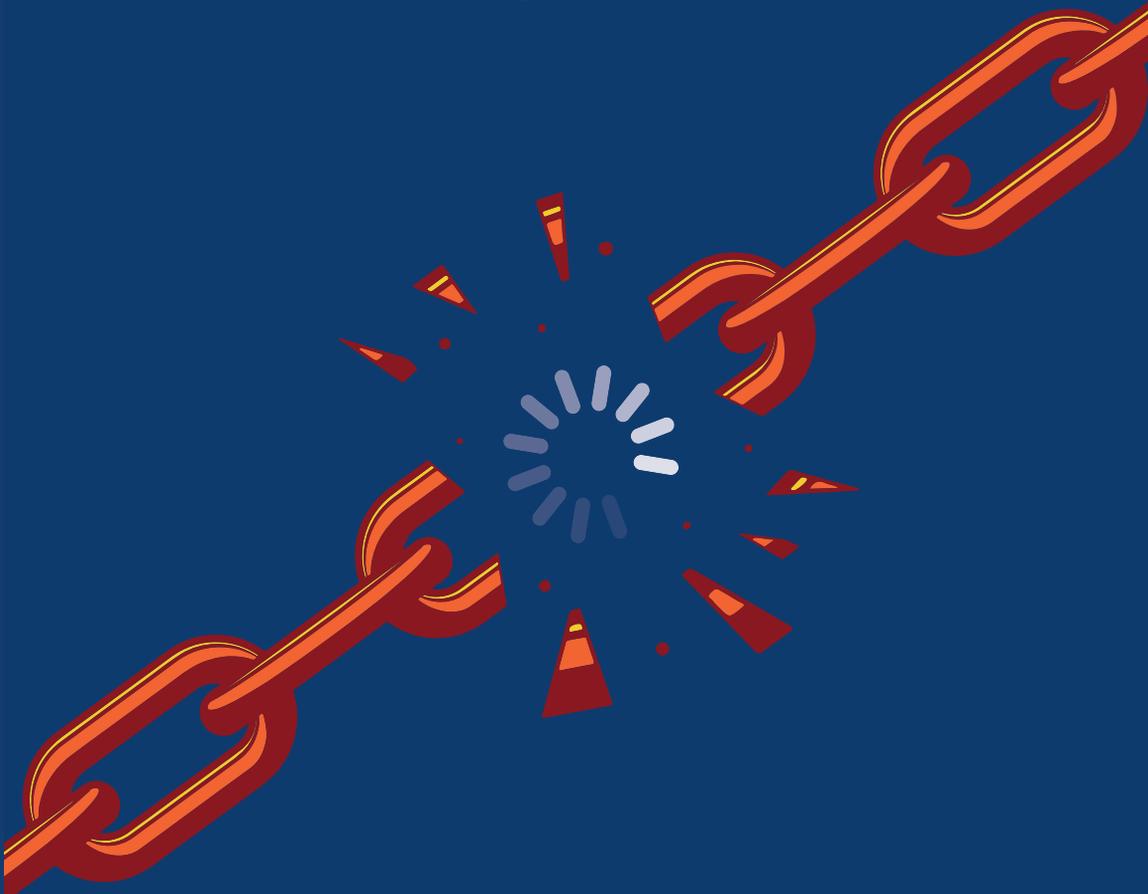# MIKE HEALY

MARX AND DIGITAL MACHINES

Alienation, Technology, Capitalism

Marx and Digital Machines: Alienation, Technology, Capitalism

Mike Healy

Critical, Digital and Social Media Studies

Series Editor: Christian Fuchs

The peer-reviewed book series edited by Christian Fuchs publishes books that critically study the role of the Internet and digital and social media in society. Titles analyse how power structures, digital capitalism, ideology and social struggles shape and are shaped by digital and social media. They use and develop critical theory discussing the political relevance and implications of studied topics. The series is a theoretical forum for Internet and social media research for books using methods and theories that challenge digital positivism; it also seeks to explore digital media ethics grounded in critical social theories and philosophy.

Editorial Board

Published

Critical Theory of Communication: New Readings of Lukács, Adorno, Marcuse, Honneth and Habermas in the Age of the Internet
Christian Fuchs
https://doi.org/10.16997/book1

Knowledge in the Age of Digital Capitalism: An Introduction to Cognitive Materialism
Mariano Zukerfeld
https://doi.org/10.16997/book3

Politicizing Digital Space: Theory, the Internet, and Renewing Democracy
Trevor Garrison Smith
https://doi.org/10.16997/book5

Capital, State, Empire: The New American Way of Digital Warfare
Scott Timcke
https://doi.org/10.16997/book6

The Spectacle 2.0: Reading Debord in the Context of Digital Capitalism
Edited by *Marco Briziarelli and Emiliana Armano*
https://doi.org/10.16997/book11

The Big Data Agenda: Data Ethics and Critical Data Studies
Annika Richterich
https://doi.org/10.16997/book14

Marx and Digital Machines:
Alienation, Technology, Capitalism

Mike Healy

First published 2020

The full text of this book has been peer-reviewed to ensure
high academic standards. For full review policies, see:
http://www.uwestminsterpress.co.uk/site/publish.

Competing interests: The author has no competing interests to declare.

To read the free, open access version of this book
online, visit https://doi.org/10.16997/book47 or
scan this QR code with your mobile device:

*This book is dedicated to Neil, Siobhan, Shardonnay, Sharnelle and
Shayniese: you all have, in your own way, added to the rich
complex, colourful, often confusing, tapestry that goes to make up my life.*

*In memory of Tony Cliff and Duncan Hallas.
They simply helped to lift the scales from my eyes,
so I could see life as it is and learn how to change it.*

Contents

Acknowledgements

Introduction: Contradictions of ICT

'The iPhone controls me, I don't control it.'
Christine, Professor of Cinema Studies

1.1 Introduction

A profound contradiction exists at the heart of our interaction with Information Communication Technology (ICT): it offers a myriad of possibilities to enrich our lives yet it habitually fails to deliver on its promises, leaving us grappling with profoundly negative experiences at global, national, local, organisational or personal levels. The outrage concerning Cambridge Analytica and Facebook impacted across all these domains. The ProtonMail service, developed at European Organization for Nuclear Research (CERN), was designed to aid a more open, yet secure, Internet, prioritising the protection of civil liberties. Ironic then, that ProtonMail was the mailer selected by those working for Cambridge Analytica when they, allegedly, harvested 87 million accounts from Facebook. Berners-Lee warned of the loss of control of personal data, the spread of misinformation on social networking sites, and sought greater clarity of political funding and use online (Berners-Lee 2017). Problems associated with issues such as Big Data are indicative of the contradiction since 'Big Data technologies promise to create certainty in a highly uncertain world, yet through their logic of digital solutionism they exacerbate the crises' (Fuchs 2019a: 49). Digital technologies drive the development of ever more sophisticated weather systems analyses helping us to understand climate change, yet the data centres used to carry out this work adversely impact on the environment by contributing 17% of 'total carbon footprint' using 30 billion watts and wasting 90% of the energy they use (Isberto 2018). Electronic voting, envisaged as the future method to secure democratic elections,

carries its own set of problems (e.g. the 2019 elections in New South Wales, Australia) and is vulnerable to failure (Switzerland) or mismatch between local and central voter registration databases (France, EU election 2019).

The ICT industry, perceived as offering high quality knowledge-based jobs, has a male gender bias deeply rooted in the sector (European Commission 2018a). In 2017, most European Union ICT specialists were men: the share of female ICT specialists was 17.2%, a decline of 5.3% from a decade earlier. For many Chinese ICT professionals, working 12 hours a day, 6 days a week is the norm. The same can be said of the video game industry where hours of work and pressures arising from delivery deadlines create a stressful, harmful working environment. Child and forced labour form constituent parts of the ICT production cycle (Know the Chain 2016) and ICT is instrumental in enabling the development of modern slavery (Theron 2019).

Ethical and societal implications of artificial intelligence include the possibility that Artificial Intelligence (AI) programmers and data scientists, often innocently, use existing texts to guide AI development thus importing bias, based on gender or stereotyping, into AI code. The fiasco associated with 2020 grades for the UK's International Baccalaureate and A level results, have revealed the profoundly biased assumptions that can reside deep within AI algorithms. As these cases show, the negative impacts of suspect AI programmes can have devastating consequences on people's life chances. ICT has been overtly politicised in the international race for technical supremacy as evidenced by concerns over Huawei and 5G expansion. The introduction or upgrading of ICT systems threaten jobs or facilitate greater surveillance of employees.

The genesis of this contradiction can seem to be inadequate technology, poor decision making, ineffective ethical policies, problems emanating from limited end-user proficiency, or a mixture of all these. Hence, the belief that better technology and/or better policy initiatives/ethical frameworks and/or improved end-user education will resolve the contradiction. In reflecting upon the Cambridge Analytica disclosures, Berners-Lee tweeted the problems were caused by 'bugs, in the system. Bugs can cause damage, but bugs are created by people, and can be fixed by people' (Berners-Lee 2018).

Yet despite the wide-ranging and sometimes positive initiatives flowing from this approach, the contradiction remains, and deepens and widens as more people use increasingly complex technologies. Apart from issues such as system security and the deliberate misuse of ICT, experience of ICT can, for example, lead to normally calm people becoming enraged with their digital devices or technology in general; drive those proficient in a range of other skills to denigrate themselves by saying 'I am useless with computers'; feed a fear of what ICT can do; result in an adverse disruption of family and work life; and facilitate major economic crises or influence the outcomes of elections. The smart phone has replaced the alarm clock as one of the most oppressive pieces of technology. Even an Amazon digital video doorbell creates civil rights issues.

This book addresses one simple question: what feeds the central contradiction where people experience ICT in a profoundly contradictory way? I argue that approaches such as calling for better technology and/or more effective end-user education as well as greater regulation of the digital sphere, are inherently limited. They may identify manifestations of the problem but fail to provide fundamental solutions. I explore the problem from a radically different perspective and demonstrate how valuable the Marxist concept of alienation is in researching and explaining the contradictory nature of ICT. This book is a contribution to the growing pulse of interest in Marx's approach which can be detected in contributions to journals such as *Work Organisation, Labour and Globalisation* and *triple C: communication, capitalism and critique*, indicating that the contradictory reality of ICT is beginning to be addressed by researchers using theories of alienation.

This book is not an overview of theories of alienation, nor does it aspire to be the definitive study of all the problems embedded in ICT. It does not set out to provide final, absolute proof that Marx's theory of alienation is correct. Its ambition is more modest: asking if Marx's view of alienation provides greater explanatory power and clarity than other theories of alienation in helping us research and understand the contradictory nature of ICT.

The *1844 Manuscripts* (Marx 1970b) and *The German Ideology* (Marx and Engels 1970) were the first two works of Marx I read as a young clerical worker in the British Civil Service in the early 1970s at the time when I was also becoming a militant trade unionist. This was a time when my practical activity often clashed with and forced me to reassess my assumptions about the world. I struggled with both books, but they spoke to me about the society in which I lived and helped me grope towards the glimmerings of an understanding of that world. They challenged my perceptions, encouraging me to see things from a different perspective. I would not have called myself a Marxist then – that came much later – but those books were the beginning of my journey to becoming someone who is (so succinctly put by Alex Callinicos (1995)) a naturalist materialist, who embraces Marxism as a social theory and is a revolutionary socialist in practice. Marxism also taught me that it is never enough to simply proclaim a viewpoint – it must be tested, authenticated and continually buttressed with evidence from real, practical life – and to see theory and practice in a dialectical relation.

There are two overarching traditions informing alienation research: Marx's approach, and the Seeman perspective, the latter being the choice of perspective for most researchers. The differences between these two traditions are examined in greater detail in chapter 2. Suffice it to say for now that while both lay claim to a materialist analysis, there any similarity ends. Marx sees manifestations of alienation as deriving directly from capitalism's conflictual and contradictory nature and it is therefore a *normal* response to the problematic technological burdens we confront, requiring a *totality* of view based on economic and social relations. The Seeman approach locates alienation within a

specific instance, describing it as an *abnormal* response to life's pressures requiring suitable context-specific measures for its alleviation. It seeks to decouple expressions of alienation from the wider perspective and places the emphasis on the individual. This book argues that Marx's perspective offers more fruitful avenues of exploration of alienation than the Seeman route (and/or any of its derivatives).

My focus on Marx's theory of alienation to ICT centred on the following themes:

- Is Marx's theory of alienation effective when investigating the experience of participants in three distinct settings: ICT professionals, scholars, and senior end-users in the Southwark Pensioners' Action Group (SPAG), as they relate to ICT? The decision to investigate alienation within these three scenarios was informed by the need to provide a range of apparently contrasting settings, each linked to ICT. These settings cover those who create digital commodities, those who research the ethical and societal impact of those commodities, and those who use the technologies. This choice is discussed in further detail in chapter 3. My decision to focus on ICT professionals, scholars and pensioners in south London also arose simply because I have taught aspects of ICT, such as web design, as well as the societal and ethical implications of ICT at Westminster University and have lived in Southwark so I was drawing upon an academic context and a geographical area with which I am familiar.
- Can the explanatory power of Marx's theory identify a commonality of experiences both within and between these three settings?
- How does his theory provide a framework for undertaking the research, revolving group discussions and individual interviews, in these three settings?

An additional question also arose that was directly related to the method employed in the research: how far can participatory action research (PAR) make a positive contribution to researching alienation?

Chapter 2 covers theories of alienation, particularly those of Seeman and Marx and includes reference to alienation and reification. Chapter 3 outlines the rationale for the chosen methodology – critical realism (CR) – underpinned with PAR. It provides a description of the organisations and participants of the settings and details the processes involved in obtaining the appropriate data. Chapter 4 covers the setting concerned with ICT professionals; Chapter 5 focuses on scholars researching ICT; Chapter 6 draws upon the experiences of both these groups; and chapter 7 investigates the relation between mature end-users and ICT. These chapters constitute the core of the book and each includes a description and analyses of relevant data. Chapter 8 discusses the extent to which the research themes have been addressed and identifies areas

of possible further research. It also provides a critique of the research process as well as providing a conclusion. Marx's view of alienation is contentious and is regarded as difficult to operationalise presenting significant challenges and risks for research underpinned by his approach. But we all enjoy a good argument, don't we, and normally there is no effort or fun to be had in scaling a three-foot wall: the higher the climb, the greater the view.

There is one important concluding remark required. The Covid-19 virus burst onto the world while this book was being finished and while it is too early to extensively detail the impact this virus will have on the use of digital technologies, sufficient evidence exists to indicate that it is likely to have a profound negative shock on ICT professionals and scholars. The consequences for end users will take time to emerge.

CHAPTER 2

Theories of Alienation – Seeman and Marx

2.1 Introduction

This chapter examines in detail the two contrasting approaches to alienation by Seeman and Marx. It was the discovery and subsequent publication in 1932 of Marx's *Economic and Philosophical Manuscripts of 1844* (Marx 1970b), which 'rapidly became one of the most widely translated, circulated and discussed philosophical writings of the twentieth century' (Musto 2010: 94), that provided the impetus for a wide interest in researching alienation. In 1969, for example, the US National Institute of Mental Health compiled a bibliography of 225 articles concerned with alienation. More recently, ICT has driven research on the complex and contradictory relationship between technology and society evidenced by the emergence of Digital Humanities as an academic discipline, and an increase in journals, conferences, books, and publicly and privately financed research projects. However, mainstream non-critical, alienation research has confronted three problems. First is the shadow of Marx, with all its political implications; second, the difficulties in undertaking measurable, quantifiable work demanded by the dominant positivist framework; and finally the concept of alienation is frequently defined as a vague descriptor for feelings of unease or dissatisfaction.

2.2 The Seeman Model

Seeman's 1959 seminal paper attempted to resolve these problems and to 'present an organised view of the uses that have been made of the concept; and [to tie] the historical interest in alienation to modern empirical effort' (Seeman 1959: 783). Distilling the work of Marx, Weber, Durkheim, Adorno and Wright

Mills, Seeman constructed five categories of alienation: powerlessness; meaninglessness; normlessness; isolation; and self-estrangement. Another category, cultural estrangement, was added after the tumultuous events of 1968. These categories encouraged research programmes using metrics to determine, measure and interrogate alienation within the positivist frame. The explicit (erroneous) inference is that studies of alienation using Seeman are non-polemical, non-political and independent of ideology. Since Seeman's perspective informs most research investigating alienation it is appropriate to outline and critically evaluate his model.

Powerlessness is the belief that a person's 'own behaviour cannot determine the occurrence of the outcomes or reinforcements' she wants (Seeman 1959: 784). While treating powerlessness from the standpoint of the 'objective conditions in society' (Seeman 1959: 784), he focuses specifically on 'powerlessness as expectancy' firmly rooted in the discrepancy between an individual's expectations for control (Seeman 1959: 785) and the minimal possibility of achieving such control. Seeman acknowledges that the concept of powerlessness draws upon the work of psychologist, Julian Rotter (1954) (cited in Seeman 1959: footnote 6: 784). Powerlessness as ultimately determined by an individual's perceptions of her experience.

Meaninglessness as the 'individual's sense of understanding the events in which he is engaged' or the lack of clarity about what she is expected to believe. It is derived from 'Adorno's treatment of prejudice' (Seeman 1959: 786). Excessive meaninglessness derives from an inability to predict outcomes of events and to determine the consequences of acting on a given belief. Conversely, meaninglessness is minimal when satisfactory predictions can be made (Seeman 1959: 786). Thus, the strength or weakness of meaninglessness should be measurable.

Seeman drew upon Durkheim's notion of anomie to develop the concept of normlessness where 'social norms regulating individual conduct have broken down or are no longer effective as rules for behaviour' (Seeman 1959: 787) and/or where individuals have become disconnected from social conscience. Individualism is elevated to such a degree that people cease to consider or care about the concerns, needs and aspirations of others. The driving force of anomie is society's inability to meet individuals' aspirations, resulting in deviant behaviour.

Isolation, Seeman argues, occurs when individuals 'assign low reward value to goals or beliefs that are typically highly valued in the given society' (Seeman 1959: 789) creating feelings of separateness from society and the desire to impose changes that reflect their own priorities and imperatives. Isolation can be linked to other concepts within his typology to 'be profitably applied in conjunction with one another in the analysis of a given state of affairs' (Seeman 1959: 789). As with his previous aspects of alienation, Seeman talks about the possibility of developing measures that can determine the isolation of the individual.

Seeman's concept of self-estrangement conveys 'the loss of intrinsic meaning or pride in work and the failure to be fulfilled by the activities in which one is engaged.' He believes this aspect of alienation is the most problematic for description and usage in analysis but maintains that 'the basic idea contained in the rhetoric of self-estrangement – the idea of intrinsically meaningful activity – can, perhaps, be recast into more manageable social learning terms… to see alienation *as the degree of dependence of the given behavior upon anticipated future rewards*, that is, upon rewards that lie outside the activity itself' (Seeman 1959: 590 italics in the original). The words 'degree of dependence' underline Seeman desire to measure alienation. Cultural estrangement is 'the individual's rejection of or sense of removal from dominant social values' (Seeman 1991: 351) seeking to explain why individuals or groups do not accept and follow a set of commonly agreed standards of social practices.

In moulding this typology, Seeman sought to achieve two objectives. Firstly, to make the concept of alienation more accessible by describing various forms of behaviour thereby providing a toolbox for investigating those behaviours. His approach facilitates the construction of various measures acting as surrogates for his six categories – for example, job satisfaction or loneliness – which are designed to illuminate the alienated state by using techniques such as self-reporting questionnaires, with results being processed through statistical programs. However, his scheme has several problems.

First, constructing a list of various conditions of alienation requires consideration of the relation between each component part, including their interaction. In Seeman's scheme 'there is no theoretical structure between the six dimensions and presence of all six dimensions is not required' (Rayce et al. 2009: 81). Seeman acknowledges there may be inner connections between his categories, but he insists that three aspects, powerlessness, meaninglessness, and normlessness, operate independently of each other. In doing so he slices the notion of alienation vertically, thus decoupling the different strands. Yet he also confirms that the categories of his scheme could 'be profitably applied in conjunction with one another in the analysis of a given state of affairs' (Seeman 1959: 789). However, this concession undermines Seeman's view that his categories of alienation are separate research domains. Attempts have been made to resolve these difficulties and contradictions. Blauner (1964), among others, sought to establish a relationship between Seeman's categories hoping to remake Seeman's scheme into 'moments of a single process' (Harvey et al. 1980: 202). The attempts to try to reconcile the contradictions within Seeman's view of alienation acknowledge that his scheme had entrenched weaknesses.

The second criticism is linked to his second objective, to prise alienation research from the Marxist influence. Seeman's method slices the notion of alienation horizontally by treating 'alienation from the personal standpoint of the actor – that is, alienation is taken from the social-psychological point of view' (Seeman 1959: 784) encouraging researchers to see the individual person or group as experiencing an exceptional moment thus reinforcing the notion

that each instance of alienation is unique arising from a conflation of quite specific circumstances. This emphasis on immediacy focuses on solutions applicable to particular circumstances, constructing a barrier to generalising from the specific instance.

The problematic inherent in Seeman's contradictory approach is expressed in the research informed by his perspective, or one of its derivatives, with alienation itself becoming merely another category synonymous with issues such as emotional exhaustion, job satisfaction, and employee voice. Alienation ceases to be the cause of and the explanation for the manifestations of discord: instead expressions of discord become the antecedents of alienation. It is inverted and conceptualised as either a mediator providing a relation between inputs and outcomes or as the consequence of categories decided by the researcher. It is considered by degrees allowing for conclusions that portray one group as experiencing greater (or lesser or, indeed, no) intensity of alienation than another. The implication is that an alienated state can be increased or decreased by altering inputs such as employee voice. Accordingly, alienation ceases to be a meaningful concept and is easily replaced by sentiments such as disaffection, dissatisfaction, cynicism, disillusionment, or pessimism, denoting various degrees of unease. Consequently, researchers are not misapplying Seeman's notion of alienation, they are simply, and often unknowingly, expressing the contradictions and problematic implications inherent in his approach. Ceasing to focus on the societal relations that mould our alienated state, researchers instead undertake a technical exercise in constructing appropriate questions and metrics, and appropriate statistical analysis. Invariably, the audience for such research are those at the top of hierarchical structures, such as management/employers/organisations who, it is argued, can alleviate our alienated condition by, for example, adopting more progressive employment policies.

A third criticism of Seeman's is that he fails to provide a non-political and non-polemical view of alienation because it is seen as a state of mind requiring modification and, in the work context, HR managers are often seen as offering a potential role in reducing alienation. These conclusions are intensely political in two ways. First, they implicitly accept the dominant relation of managers over labour. This is a recurring theme in much of the research output looking at, for example, job dissatisfaction and alienation at work. Reference to the overarching causes for the contradictory and conflictual relation between workers and their employers are absent from such research. The Seeman lens emphasises how alienation negatively impacts on employers' needs and focuses on solutions linked to the specific instance with recommendations for action that are invariably targeted at management initiatives. Essentially, this is a business case approach to researching alienation from an idealist perspective which sees alienation as an intellectual problem concerned with the subject's perceptions and pursuing remedies designed to impact solely on the consciousness of the subject. By accepting existing employee-employer

relations, Seeman reinforces the view that even if it is management practices and attitudes that foster alienation, it is the management that can ameliorate the problem.

Secondly, the language describing those who express dissatisfaction identifies the alienated as the problem because of their deviant behaviour. Managers are urged to 'alleviate alienation among workers to reduce costs associated with deviant activities' (Shantz et al. 2015: 390). The use of the word 'deviant' implies a presupposition that we should aspire to natural and normal non-deviant behaviour and commit to a given organisation and adhere to its imperatives. Such conclusions flow directly from Seeman's view of alienation because each of his categories identifies the individual (or group) as exhibiting abnormal, aberrant or criminal behaviour. Seeman's approach is implicitly biased in favour of existing social relations and the imperatives of hierarchical structures. Consequently, researching alienation from the Seeman perspective is highly politicised.

It is also polemical in focussing on core suppositions of Seeman's thesis to construct processes supposedly designed to iron out the wrinkles inhibiting the smooth working of the corporate experience and minimise organisational conflict. Seeman's approach shows bias against research involving the collective voice of organised labour. Participants complete a myriad of questionnaires and/or are subject to pre-defined semi-structured interviews, while considered solely as atomised individuals with problems that can only be resolved by an external agency. Accordingly, Seeman's perspective has created and continues to support a body of work that denies other, more critical, ways of researching alienation. Failure to engage with relevant critical texts encourages research publications that contribute to and support a discussion which moves almost seamlessly between references, for example, from Marx to Seeman to Blauner to Weber and Braverman, without fully delineating the real differences between these traditions. For a sustained insightful critique of Seeman see Harvey et al. (1980, 1983) and Warner et al. (1985) on the problems and contradictions inherent within Seeman's approach to researching alienation. These papers are relatively unknown but together they provide a rigorous, scholarly and forensic examination of the 'Seeman problematic' (Warner et al. 1985: 364) and in doing so develop the critical tradition in this area. The first paper undertook a dialectical analysis of the history of alienation research to conclude that it is possible to develop a 'theory of alienation which was historical and critical in nature' (Harvey et al. 1980: 229). The second paper scrutinised Seeman's 1959 claim to have constructed his five categories of alienation using other, authoritative, sources. By linking these original sources back to Seeman, Harvey et al. show that in several critical instances, he erroneously refashioned previous work to fit within the frame of 'positivist canons of explanation and validation' (Harvey et al. 1983: 45). The paper concludes that Seeman's approach employs 'Procrustean canons that allow only a selective construction of an operational

definition' of alienation (Harvey et al. 1983: 46). The final paper examined the latent content and ideology within the Seeman approach.

Seeman's approach is fraught with contradictions which ultimately flow from a non-critical approach to researching alienation. He treats alienation in the same way classical economics regards crisis as a passing accidental disturbance which arises because the 'incomprehensibility and irrationality of crises is ... a consequence of the class situation and interests' of the ruling class (Lukács 1971: 105). Yet Seeman has one redeeming feature. References to powerlessness, meaninglessness, isolation and so forth as well as the subsequent attempts to use his framework, are an admission that there is something deeply disturbing about the way we live. It was this 'something' Marx sought to address in his *Economic and Philosophic Manuscripts of 1844*.

2.3 Alienation – the Marxist Perspective

Marx's theory of alienation has a chequered history but, as a critical interest in alienation re-emerges, so does the awareness and the significance of Marx's contribution. Moreover, as Costas and Fleming argue, Marx's tradition 'yields important insights' in the exploration of alienation (Costas and Fleming 2009: 360) with, recent examples being Langman and Ryan (2009) drawing upon Marx's presentation of alienation to explore contemporary global culture, Hall (2018a, 2018b) looking at academic life, Silver (2019) seeking to reconstruct Marx's theory of alienation, and Healy and Wilkowska (2017) looking at the impact of alienation on dignity at work. After reviewing research concerned with work and alienation, Archibald argues that 'globalization and competition… increased objective powerlessness and subjective alienation' (Archibald 2009a: 337) and that those seeking to study alienation from a Marxist perspective should be prepared to read widely and deeply on the subject.

Silver (2019: 90) asserts it is unnecessary to rehearse the key elements of Marx's theory of alienation since the 'general thrust of Marx's account is well known'. This assumes that Marx's approach is widely understood when the evidence suggests otherwise. Further, in the current climate when we can detect a stronger pulse of interest in his view, re-stating Marx's position should encourage a rigorous engagement with his relevant texts. The *Economic and Philosophic Manuscripts* (Marx 1970b) were the start of a larger project exploring the nature of capitalism and should be considered in that context. The tendency, when referring to Marx' theory of alienation, is to decontextualise the *Manuscripts* from Marx's other work and to further decontextualise the section on alienation from remaining chapters in the *Manuscripts*.

For Marx, alienation is historically located in the dialectical and contradictory relation between capital and labour and the resultant loss of control over one's labour power. Marx emphasises that this relation exists in real, practical life and gave the section in the *Economic and Philosophic Manuscripts* directly

concerned with alienation the title 'Estranged Labour'. Marx has a distinct view of our species-being and argues labour expresses the essential humanity of people. During the process of labour people transform themselves and their social context. This creative, innovative drive occurs within a social context as people develop a range of relationships to achieve the outcomes of their labours. He emphasises the collective endeavour needed to obtain those things required for us to live, survive and thrive arguing that society 'does not consist of individuals, but expresses the sum of interrelations, the relations within which these individuals stand' (Marx 1973a: 265). These are the key aspects of Marx's view of humanity: we work on and transform the world as we find it, we undertake this task within a collective environment, and in this process, we change our world and the ideas we have about that world. In doing so we change ourselves; and, finally, and by extension, re-shape the social context within which labour occurs. It is a dialectical process subject to continuous change creating new practical problems requiring new resolutions and is a dynamic, interactive, creative, and transformative process that both contributes to and is founded upon social relations.

Marx argues that capitalism, in which labour itself becomes a commodity, continues yet contorts this process to create a contradictory, conflictual and universal alienated condition in which all relations under capitalism are alienated relations. Two conditions drive this process. Firstly, people become alienated from the products of their work because they invariably have no control over the decisions about what gets made; the decisions concerning the production of commodities are determined by the employer and/or the marketplace, not the worker. For Marx:

> the worker is related to the product of labour as to an alien object… the more the worker exerts himself in his work, the more powerful the alien, objective world becomes which he brings into being over against himself, the poorer he and his inner world become, and the less they belong to him…The worker places his life in the object; but now it no longer belongs to him, but to the object… What the product of his labour is, he is not… The externalisation of the worker in his product means not only that his labour becomes an object, an external existence, but that it exists outside him, independently of him and alien to him, and begins to confront him as an autonomous power; that the life which he has bestowed on the object confronts him as hostile and alien (Marx 1970b: 108).

I will argue later when discussing ICT professionals and scholars researching the societal impacts of ICT, that this is exactly the experience of these two groups of workers. Labour power is a commodity to be bought and sold in the marketplace like any other, and since the worker has no control over the way the marketplace operates, by extension has no real control over the commodity she embodies. Marx develops the argument to say:

> the fact that labour is *external* to the worker – i.e., does not belong to his essential being;… does not confirm himself in his work, but denies himself, feels miserable and not happy, does not develop free mental and physical energy… the worker feels himself only when he is not working; when he is working, he does not feel himself. He is at home when he is not working, and not at home when he is working… External labour, labour in which man alienates himself, is a labour of self-sacrifice, of mortification. Finally, the external character of labour for the worker is demonstrated by the fact that it belongs not to him but to another, and that in it he belongs not to himself but to another… the activity of the worker is not his own spontaneous activity… it is a loss of his self (Marx 1970b: 111).

Marx argues we are alienated, estranged, from the products of our labour, including our ability to work. The alienation that a worker has from the products of her labours impacts on the relations she has with the world.

The second key element of Marx's theory of alienation lies 'not only in the result, but also in the *act of production*, within the *activity of production* itself' (Marx 1970b: 109 italics in the original). He argues that if 'the product of labour is alienation, production itself must be active alienation, the alienation of activity…The product is… but the summary of the activity of production' (Marx 190: 110). A critical aspect of alienation is the transformation of the work system where the process of production (the ownership of tools, processes of production and the like) is removed from control (formal subsumption) of the worker to be fully controlled by capital (real subsumption) thus deepening and broadening the division of labour. Consequently, it is capital that shapes production development (Marx 1970a: 510).

These two overarching conditions determine further aspects of alienation. Discussions concerning Marx's theory of alienation often neglect to fully appreciate that it is alienation from both the products and processes of labour that create the conditions for the development of two further concepts Marx considered in his theory of alienation. Firstly, Marx argues that alienation from both the product and process of labour has a negative impact on our species-being. Labour is the life activity of the human species and that 'productive life is species-life. It is life-producing life. The whole character of a species, its species-character, resides in the nature of its activity, and free conscious activity constitutes the species-character of man' (Marx 1970b: 113). Marx is outlining our relationship to nature arguing that the natural world is our direct material means of existence and upon which all human development depends. He is emphasising that 'man lives on nature, [which] means that nature is his body, with which he must remain in continuous interchange…' (Marx 1970b: 112). He is accentuating the practical, material activity we must undertake to survive, and we reflect upon on our own labour in this process and can see our species-character in the concrete objects we produce. We contemplate ourselves in the

processes we create, in the relationships we develop, and in the world we have changed and continue to remake. When we are denied control and use over the product of our labour, when it becomes alienated from us, appearing to have power over us, we are in effect alienated from our own species-being; alienated from our own humanity and from the world we inhabit.

Drawing upon Lukács (1971), Costas and Fleming (2009) describe a condition where self-alienation arises because 'self becomes an object to be exchanged since skill, expertise and experience are commodified as a productive resource' (Costas and Fleming 2009: 361). These attributes can only exist within a person. Weeks (2007) asserts that the work of Mills (1951) and Hochschild (2003) provide a powerful argument in support of the view that the critique of estranged labour is even more applicable to the conditions of immaterial labour than it ever was to industrial production. Immaterial labour can be described as the production of symbols, codes, texts or ideas, or producing and manipulating emotions or feelings. 'The alienation of immaterial laborers from the product and process of labor may be comparable to the experience of industrial work but work that requires the application and adjustment of "personality"' is a further manifestation of alienation (Weeks 2007: 242). The concept of immaterial labour is contentious and misleading since any form of labour requires physical effort (Carchedi 2014).

Consequently, the purpose of work ceases to be the purpose of life and becomes instead merely a means of physical existence. 'Estranged labour, therefore, turns Man's *species-being*, both nature and his intellectual species-power, into a being alien to him and a *means* of his *individual existence*. It estranges man from his own body as well as external nature, from his spiritual essence, his *human* existence' (Marx 1970b: 114) (We just need to refer to what is happening to the planet for evidence to support our profound alienation from our environment). While alienation arises from the relation between capital and labour, an experience which under capitalism is carried out in shops, offices and factories, it bursts beyond the confines of the workplace, becomes an embedded condition that touches upon all spheres of activity. Marx also argues:

> Just as he is thus depressed spiritually and physically to the condition of a machine and from being a man becomes an abstract activity and a belly, so he also becomes ever more dependent on every fluctuation in market price, on the application of capital, and on the whim of the rich (Marx 1970b: 68).

Every aspect of society is adversely affected by alienation's consequential impoverishment and degradation of self.

Marx argues the manifestation of alienation takes a practical form and self-estrangement can 'only become manifest through the real practical relationship to other men. The medium through which estrangement takes place is itself *practical*' (Marx 1970b: 116). Thus alienation is not merely a matter of

consciousness, of feelings, but is the lived experience of actual, practical life and points to the final expression of alienation which concerns the collective endeavour Marx identified as being critical to labour. In this respect, Marx argues that:

> An immediate consequence of man's estrangement from the product of his labour, his life activity, his species-being, is the estrangement of man from man. When man confronts himself, he also confronts other men. What is true of man's relationship to his labour, to the product of his labour, and to himself, is also true of his relationship to other men, and to the labour and the object of the labour of other men (Marx 1970b: 114).

Identifying a further aspect of relations between people, Marx argues that if the product of labour is not owned by the creator of the product, it is owned by someone else, who owns the outcome of alienated labour.

> The alien being to whom labour and the product of labour belongs, in whose service labour is performed, and for whose enjoyment the product of labour is created, can be none other than man himself. If the product of labour does not belong to the worker, and if it confronts him as an alien power, this is only possible because it belongs to a man other than the worker. If his activity is a torment for him, it must provide pleasure and enjoyment for someone else… only man himself can be this alien power over men (Marx 1970b: 115).

Further, because workers relate to one another in a competitive rather than a cooperative context, this has real concrete consequences since the 'competition thus created between the labourers allows the capitalist to beat down the price of labour, whilst the falling price of labour allows him, on the other hand, to screw up still further the working-time' (Marx 1970a: 549). An increase in the number of people creating material goods is seen as a problem by existing workers and as an opportunity for employers rather than a positive development for enhancing the practical lived experience of humanity. Consequently, the alienation from labour, the product of labour and from each other, means people relate to their labour as 'unfree activity' undertaken in the 'service, under rule, coercion, and yoke of another person, it is *forced labour*… undertaken not to satisfy the needs of the worker but is "a mere *means* to satisfy needs outside itself"' (Marx 1970b: 111). This abstraction of the person leads to 'depersonalization, [an] irretrievable loss of time, [and a] permanent depletion of vitality' (Worrell 2009: 432).

Marx appreciated the need to ground his argument in concrete conditions and he spent considerable time developing themes initially outlined in Adam Smith's *Wealth of Nations*, initially published in 1776 (1863), specifically those

concerned with the division of labour which played a crucial part in the aliena-
tion of labour since:

> in the production process of capital ... labour is a totality – a combina-
> tion of labours – whose individual component parts are alien to one
> another, so that the overall process as a totality is not the work of the
> individual worker, and is furthermore the work of the different work-
> ers together only to the extent that they are [forcibly] combined, and
> do not [voluntarily] enter into combination with one another (Marx
> 1973a: 470).

In the *Economic and Philosophical Manuscripts*, Marx considered alienation
as embracing the totality of human relations touching upon areas beyond the
immediate working environment. While the section on estranged labour in
the *Manuscripts* is focused on workers, he also talks about examining 'the rela-
tion to the worker, to labor and its object' by those who have appropriated
labour. Here Marx says:

> First it has to be noted that everything which appears in the worker as
> an *activity of alienation, of estrangement*, appears in the non-worker as a
> *state of alienation, of estrangement.*
>   Secondly, that the worker's *real, practical attitude* in production and
> to the product (as a state of mind) appears in the non-worker who con-
> fronting him as a *theoretical* attitude.
>   *Thirdly*, the non-worker does everything against the worker which
> the worker does against himself; but he does not do against himself what
> he does against the worker (Marx 1970b: 119).

Although the section on estrangement stops at this point, Marx revisits these
ideas in the section in the *Manuscripts* headed 'The Meaning of Human Require-
ments' where he speaks of all relations being under the sway of an external
power (Marx 1970b: 156). Marx underlines this point by arguing that aliena-
tion, historically located in capitalism, is a universal, but not ahistorical, condi-
tion, 'whose universality produces not only the alienation of the individual from
himself and from others, but also the universality and the comprehensiveness
of his relations and capacities' (Marx 1973a: 92). He returns to this theme in
Capital:

> the transformation of production under the sway of capital, means,
> at the same time, the martyrdom of the producer; the instrument of
> labour becomes the means of enslaving, exploiting, and impoverish-
> ing the labourer; the social combination and organisation of labour-
> processes is turned into an organised mode of crushing out the work-
> man's individual vitality, freedom, and independence (Marx 1970a: 506).

While Marx identified the locus of alienation to be the labour-capital relation, he was aware of its adverse impact on wider social interaction. Marx's theory of alienation attempts to define and reveal our complex myriad of wider social relations. The *Grundrisse* develops this view to argue that social connections between people is obscured by relations seemingly between things.

> The social character of activity, as well as the social form of the product, and the share of individuals in production here appear as something alien and objective, confronting the individuals, not as their relation to one another, but as their subordination to relations which subsist independently of them and which arise out of collisions between mutually indifferent individuals. The general exchange of activities and products, which has become a vital condition for each individual – their mutual interconnection – here appears as something alien to them, autonomous, as a thing. In exchange value, the social connection between persons is transformed into a social relation between things; personal capacity into objective wealth (Marx 1973a: 157).

The golden threads running through Marx's theory of alienation are the relations between all its elements and its practical manifestation in the social connection between people. It is an overarching theoretical framework consisting of interlocking elements denying a pick-and-mix approach because the component parts are intimately interdependent. The driving forces of alienation cannot be reduced to each other. As Mészáros argues, 'one cannot grasp the "specific" without identifying its manifold interconnections with a given system of complex mediations' (Mészáros 1970). This encourages a view of human activity focused on totality, mediation and immediacy, demanding an approach to research that considers any event or moment as part of a total experience. Alienation cannot be comprehended unless both the abstract and concrete conditions are appreciated since they both influence and impact on each other. Marx appreciated that the conditions described above did partially exist prior to the full development of capitalism and he argues that capitalism itself could not have emerged as an all-embracing economic formation without the presence of some prior form of alienation and division of labour. Marx is identifying the crucial role that alienation plays in the transition from one dominant economic formation to another indicating that the causes and manifestations of alienation are historically determined. This idea is revisited later when he sees that the alienation of labour creates the conditions for a further transition from capitalism to a socialist society. By doing so, Marx is recognising that while alienation is rooted in the labour-capital relation, it has much wider ramifications reaching way beyond work in any specific instance.

Figure 1 is a diagrammatic construction showing the complex interlocking components of Marx's theory of alienation.

Figure 1: Marx's theory of alienation.
Source: Author.

The growing, if limited, number of researchers drawing upon Marx's pioneering insights to explore the benefit of Marx's theory of alienation across a range of areas is indicative of the explanatory and enduring power of his analysis (Archibald 2009b). However, most research seeking to investigate alienation tends to either ignore or reference only in passing the contribution made

by Marx. There are several reasons for this. Marx's view of human nature is considered problematic as exampled by the recent work of Jaeggi (2014) and Silver (2019). In addition, Sparling's (2012) discussion of the differences between Simone Weil's and Marx's conception of the dignity of labour and their differing concepts of free and unalienated labour as well as their divergent views on the role of technology, raises further questions. These critics, and others, pose several challenges to those, like me, who advocate the possibilities available using Marx's theory of alienation. However, engaging in this discussion is beyond the parameters of this book and simply covering them in a few short paragraphs would not do justice to the concerns they raise.

The second reason relates to postmodernist perspectives, once dominant in certain intellectual quarters, which criticised the notion of alienation itself since with postmodernism 'there is no longer any subject to be alienated and nothing to be alienated from, "authenticity" having been less rejected than merely forgotten' (Eagleton 1985: 61). The third reason arose from the criticism of alienation from within Marxism itself with writers such as Althusser arguing that alienation resides in Marx's immature period and which was ignored in his later work since it does not adhere to his materialist perspective (Althusser 2005). Althusser's influential criticisms were particularly important, for they addressed an audience that may have favoured a qualitative approach to research and had a significant impact on researchers in Europe. Convincing criticisms of Althusser's approach can be found in Thompson (1978), Harman (1983, 2010) and Geras (1987). While it is not considered appropriate to engage with this debate here, a useful overview can be found in Fuchs and Sevignani (2013) and (Fuchs 2019b). The fourth reason for neglecting Marx's theory of alienation is that it does not sit comfortably with attempts to investigate and measure alienation from a positivist perspective. Seeman's salami-slicing approach to resolving this problem seems more attractive to researchers working in the mainstream, because focusing on limited aspects of alienation using a quantitative approach fits neatly within the positivist frame.

The explicit political consequences also account for the lack of interest in Marx's notion of alienation. If it is shown to offer much for research projects, it immediately raises questions about control and power over, for example, ICT as well as about the purpose and process of researching alienation. It encourages the researcher to interrogate herself about the value of her research within a wider critical frame and to ask if her work contributes to participants becoming aware of their alienation. If Marx's theory is applicable, it demands action of a political nature raising serious concerns about the possibilities of realising the full potential of ICT under the prevailing social, political and economic structures. Consequently, studies using a Marxist approach can be subject to trenchant criticism as evidenced by the reaction to Hochschild's (2003) work on immaterial labour (Brook 2009).

2.4 Alienation and Reification

This section will conclude by outlining two interrelated arguments justifying the selection of setting of a third, a group of ICT end-users undertaking a training course, since some maintain that as alienation arises from alienated labour, manifestations of alienation can only be examined in the world of work. The first is situated in the nature of commodities and how they are perceived by their consumers. Lukács argues the commodity-structure is a relation between people but which appears to be a relation between things and people thus giving over to 'material objects and social institutions ... the power to regulate behavior' (Heinz 1981: 235). In the area we are particularly concerned with, it can seem we interact with and give over control to digital products. This process Lukács calls reification and it 'requires that a society should learn to satisfy *all of its needs* in terms of commodity production' (Lukács 1971: 91, my italics). Under this reified appearance is a reality determined by relations between people.

The second is linked to the nature of commodity production. As commodity production nestles into every aspect of social life, so do the profoundly negative consequences emanating from alienation. As Lukács argues 'consumer articles no longer appear as the products of an organic process within a community ... but as isolated objects the possession or non-possession of which depends on rational calculation' (Lukács 1971: 91). Further, the experience of the worker is:

> typical of society as a whole *in that ... self-objectification, this transformation of human function into a commodity reveals in all its starkness the dehumanised and dehumanising function of the commodity relation* (Lukács 1971: 92, my italics).

Harvey is also clear that manifestations of alienation are rooted in the labour-capital relation needed to produce commodities and he echoes Lukács' sentiments when he argues that 'alienation is everywhere. It exists at work in production, at home in consumption, and it dominates much of politics and daily life' (Harvey 2018: 429). He adds that 'the objective alienation ... leaves behind a bitter residue of subjective alienation from the kind of political economy that capital has constructed' illustrating his argument by listing protests across the globe from America, Greece and Brazil, covering a range of issues which draw in participants beyond the organised working class (Harvey 2018: 437). Implicit in this persuasive line of argument is an appreciation that manifestations of alienation, often taking a less dramatic form than those listed by Harvey, can be observed in non-work environments. These two arguments buttress the decision to focus on a non-work environment to examine the reified attitude towards to technology and to determine whether expressions of alienation can be discerned.

2.5 Blauner and Alienation

Despite the criticisms directed at Marx's theory of alienation and his other economic, political and social analyses, his ideas continue to have purchase in the fabric of academic research and teaching. This view is evidenced firstly from the coverage of his ideas in courses ranging from Yale's Foundations of Modern Social Thought to the University of Sussex's *MA* in Social and Political Thought. Secondly, there is a growing interest in his ideas, including his view of alienation, by researchers seeking to provide explanations for a range of issues across an array of disciplines.

Two interventions are particularly relevant. Robert Blauner's book *Alienation and Freedom* (1964), sought to examine alienation from a Marxist perspective by focusing on its operational aspects and it has been cited in over 3,900 research publications (Google Scholar: 2019). Blauner seems impatient with those who use 'minimal empirical materials' to support their discussions on alienation (Blauner 1964: 4). He set himself the task of testing the 'theoretical assumptions' of alienation 'through consideration of empirical evidence'(Blauner 1964: 4) and to undertake this project by looking at different workplace settings. He also saw this activity as being placed within an overarching framework inspired by the Marxist theory of alienation.

While his book continues to have a considerable influence on research concerned with alienation, there are several significant weaknesses at the methodological, conceptual and interpretive levels. The major part of his study used data generated in 1947 'by a job attitude survey carried out by Elmo Roper for *Fortune* magazine' (Blauner 1964: 11) designed to investigate job satisfaction. Blauner obtained additional data from a questionnaire survey conducted by another researcher investigating the 'effects of job redesign' (Blauner 1964: 13). Consequently, Blauner's data was derived mostly from research concerned with job satisfaction and job redesign rather than emanating from research directly informed by Marx's notion of alienation. These problems persisted into his own contribution to data collection which derived from 21 interviews with chemical workers which do not fit neatly with the other data used in the study.

Apart from data collection issues, there are more fundamental problems with his data analysis because he employs five of Seeman's categories of alienation without acknowledging or discussing the problems inherent in this approach. This is highly problematic for an investigation claiming to examine alienation from a Marxist perspective because, by using uncritically Seeman's categories, Blauner imports into his research all their conflicts and contradictions. Consequently, Blauner repeats the same fundamental errors that beset many studies investigating alienation from a non-Marxist perspective; namely that alienation, and its subsequent amelioration, arises from specific contexts and conditions. When Blauner argues that changes in technology can either increase or diminish alienation he embraces the notion of technological determinism, which 'misrecognizes changes in human labor and social life and attributes properties

of those changes to machines themselves rather than the mode of production that shapes them' (Wendling 2011: 204). Similarly, in a section called 'Solutions to alienation at work', he argues that a 'crash program of research in industrial design and job analysis is needed orientated to the goals of worker freedom and dignity…' (Blauner 1964: 185) and for 'policy recommendations aimed at reducing… alienation' (Blauner 1964: 186). Further, he argues that a 'strong labor union would not only reduce powerlessness and improve working conditions of textile workers; it would also be an important force towards the modernization of this… industry' (Blauner 1964: 186). While these demands may be admirable, by framing the solutions to alienation in this way, Blauner does not identify the conflictual relations inherent in commodity production, which are at the root of alienation. Also 'by focusing on the subjective experience of alienation, Blauner has trivialized Marx's concept of alienation [reducing it] to a study of job satisfaction' (Edgell 2012: 42). Blauner did not draw upon the *Manuscripts* or any of Marx's major works to inform the categories he used in his research.

The fundamental problems arising from Seeman's categories; the reliance on data generated by job satisfaction research; plus the adherence to technological determinism, means Blauner's work on alienation, while placing alienation in an historical context, prevents it from proving a viable guide to researching alienation and technology from the classical Marxist perspective. I would argue that compared to work such as Mills (1951) or Braverman (1974), Blauner's approach is a diversion from more fruitful avenues of study and provides a Marxist gloss to a deeply un-Marxist study of alienation. In doing so it provides an additional cover for the Seeman perspective and rips out the critical core pivotal to Marx's theory of alienation.

2.6 Wendling and Alienation

If Blauner presents problems, Wendling (2011) provides several insights that can be usefully employed by those interested in Marx's view of alienation. Wendling examines Marx's perspective on the relationship between technology and alienation covering several complex arguments relating to, *inter alia*, commodity fetishism and machine fetishism noting that Marx developed 'the distinction between "objectification" (as the ontological interface between human beings and nature) and "alienation" (as the form this takes in capitalist labor)' (Wendling 2011: 34). Wendling also discusses the relationship between labour and labour power, and the difference between concrete and abstract labour. For Marx, labour is the physical act whereas labour power is the capacity to work which is commodified under capitalism. The difference between use value and exchange value of commodities also impacts upon different kinds of labour. Wendling argues that because concrete labour produces a use value, it can contribute to the objectification of labour, but does not necessarily

lead to alienated labour. However, abstract labour, being concerned solely with exchange value, results in alienation. Capitalist society 'celebrates abstract labor while degrading concrete labor' (Wendling 2011: 53). While the distinction between concrete and abstract labour is useful for comprehending how labour can be understood, under capitalism both occur simultaneously (Blackledge 2012).

She also notes the significance of formal and real subsumption on alienation within capitalism. This transformation involves changes over time and space, moving at different velocities depending upon the specific circumstances; such conditions Marx refers to as 'intermediate' (Marx 1970: 340). Wendling adds that real subsumption is 'the failure of receiving a just equivalent for one's labor and the concentrations of private property and tools in a few hands are accomplished facts' (Wendling 2011: 33). Thus, inequality and the concentration of control of ownership of the production processes are an integral part of the capitalist system. These accomplished facts mean that capitalist production appears as the 'natural form of social production' (Marx 1970a: 515). This has implications for any study seeking to investigate alienation because it can seem to both those undertaking the research and those being researched, that alienation, rather than being an inherent and a necessary part of in the capitalist system, is an aberration, an unusual, unnatural state needing to be alleviated or eradicated if things are to revert to normality.

2.7 Autonomist Marxism and Alienation

The autonomist and Open Marxist movements seek to confront and challenge alienation and argue that it can be overcome within capitalism by non-alienated spaces. Hardt and Negri argue that the domination of immaterial work in contemporary capitalism means jobs are 'for the most part… highly mobile and involve flexible skills… characterised in general by the central role played by knowledge, information and communication' (Hardt and Negri 2001: 285). Commodity production has become informationalised so that information and communication play a key role in immaterial labour resulting: the homogenisation of the work process; emergence of the computer as a universal tool; labour is transformed into a service with production tending towards things that are 'intangible, a feeling of ease, well-being, satisfaction, excitement and passion' (Hardt and Negri 2001: 286).

The political and social significance of these developments mean 'we participate in production in a more radical and profound commonality' than previously experienced under capitalism (Hardt and Negri 2001: 301–302). Thus, 'productivity, wealth, and the creation of social surpluses take the form of cooperative interactivity through linguistic, communicational, and affective networks … immaterial labour thus seems to provide the potential for a kind of spontaneous and elementary communism' (Negri and Hardt 2001: 294). Their

analysis of immaterial labour identifies the *commons* as the 'incarnation, the production and liberation of the multitude' (Hardt and Negri 2001: 303). These ideas resurface in their subsequent book *Multitude: War and Democracy in the Age of Empire* (2005) even if the analysis is in a 'rather more cautious and qualified form than before' (Wright 2005: 37). For example, in talking about alienation and immaterial labour, they argue that 'the hegemony of immaterial labor, then, does not make all work pleasant, nor does it lessen the hierarchy and command in the workplace or the polarization of the labor market' (Hardt and Negri 2005: 111). As will be discussed later in the book, the experiences of ICT professionals and scholars cannot be explained by the perspective advanced by Hardt and Negri.

John Holloway is influential in debates within, and the direction of, autonomism. Holloway criticises orthodox Marxism because its starting point is 'with capital or domination' whereas the autonomist tradition insists 'on starting from below, from the struggle of the working class, or more broadly, anticapitalist struggle' (Holloway 2011). He maintains that 'it is possible to emancipate human activity from alienated labor by opening up cracks where one is able to do things differently, to do something that seems useful, necessary, and worthwhile to us' (Holloway 2014). For Holloway, 'the rejection of alienated and alienating labor entails, at the same time, a critique of the institutional and organizational structures, and the mindset that springs from it' (Holloway 2014).

The scream is at the heart of his resistance to alienation for he argues that the scream is a scream against oppression, exploitation, dehumanisation (Holloway 2002: 150). Holloway talks of the possibilities of overcoming alienation within capitalism when he says that 'Reclaim the Streets realized this beautifully, recognizing that if what the RTS activists opposed was privatization, alienation, and isolation, a street party was not just a 'protest of these conditions but a temporary triumph over them' (Solnit 2005: 23 cited in Holloway 2010: 45). In making these arguments, Holloway is revisiting the themes covered in 1992 in his contribution to *Open Marxism* (Holloway 1992). Beradi echoes this theme when he talks about the need to create 'social zones of human resistance, zones of therapeutic contagion' (Beradi 2009: 220).

There are differing tendencies within the autonomist tradition over, for example, attitudes towards taking state power, but they are generally in accord in believing that it is possible to overcome alienation, if only partially, under capitalism. This is a major break with the totalising alienated experience identified by Marx and their perspectives have been critiqued from a number of aspects such as: immaterial labour (Camfield 2007, Sevignani 2015); the commons (Harvey 2014, Kostakis and Stavroulakis 2013, Mudu 2009); and crack capitalism and alienation (Blackledge 2012).

The research covered in this book was driven by the categories and relations located within Marx's theory of alienation as outlined in the *Manuscripts* and his later works providing a clear break with dominant approaches to researching

the condition. The *Manuscripts* are frequently the starting point for many researchers interested in Marx's formulation of alienation yet most lapse into the Seeman/Blauner perspective to continue their investigations focusing on the statistical correlation between predetermined variables. I argue the evidence gathered, analysed, and presented here indicates that it is feasible to research alienation using Marx's categories and relations because they offer greater penetrating explanatory power than other approaches. The next chapter provides a commentary on the specific activities involved in my research.

CHAPTER 3

Researching Alienation

3.1 Introduction

Manifestations of alienation tend to ebb and flow; mediated through specific contexts and triggered by specific events, they suddenly break the surface of seemingly tranquil waters. This creates a problem for researching the condition. This chapter describes one way to research Marx's approach to alienation that moves beyond the polemic to provide a method of collecting, analysing and presenting data without falling into empiricism. Many studies purporting to research alienation employ measurement tools, such as pre-determined self-reporting questionnaires which often incorporate the ideological and theoretical positions of the designers, but it can seem to participants that the questions are neutral. This approach relies on participant self-reporting which can describe the surface appearance of alienation without delving into its causes and triggers. Finally, participants exist as individuals rather than as part of a collective with a myriad of relations that are subject to constant change. Criticism of Marx's notion of alienation often focuses on the failure of the Marxist approach to resolve major methodological challenges associated with the need to find an accurate measurement of the levels or intensity of alienation. In doing so, such criticism lapses back to the Seeman positivist problematic.

My research sought to assess if Marx's approach can explain the lived alienated experiences in three distinct settings – ICT professionals, academics researching the ethical and societal implications of ICT, and end users – and several reasons informed my rejection of a positivist approach. Firstly, positivism views 'the world as being flat, undifferentiated and unchanging' (Bhaskar in Bhaskar and Callinicos 2003: 98), a criticism particularly pertinent to research within the field of ICT since both its subject matter, in terms of technology, and its relationship to human action are in a state of constant flux. Seeking to create a closed system of experimentation in an effort to identify influential variables

is problematic because it denies the notion that any one particular (or set of particulars) is 'modified and restricted in various ways because it's operating in relation to all sorts of other powers' (Callinicos 2004: 90). Positivism is unable to adequately deal with the relation between agency and structure which casts serious doubts on its effectiveness for researching alienation since such research deals precisely with an aspect of the world that is constantly changing and is essentially concerned with relations, albeit mediated through specific contexts.

A quantitative approach would also have been problematic since it would not have enabled comparative analyses between the three settings since any self-reporting questionnaire that drew upon Marx's theory of alienation to cover issues such as gratification obtained from work; separation from work and play; the fusion between work and play; the unity between planning and performance of work; and the relations between values and qualities developed in working and non-working periods; power relations; and creativity would have been almost impossible to devise. Such a questionnaire would have needed tailoring to the specific circumstances of both the ICT professionals and scholars consequently raising concerns over comparability between the two groups. Finally, it would not have been suitable for the end user activity with the Southwark Pensioners Action Group (SPAG). The inconsistencies associated with multiple domain-based research would have been compounded by a quantitative approach and would have rendered it impossible to meaningfully engage in a discussion about alienation both within and between the settings. Qualitative data gathering (QDG) based on interviews, groups sessions, and observation allowed for emergent properties to be more easily observed and explored. QDG permitted a greater exploration of underlying relations of alienation and the triggers for its practical manifestation which in turn facilitated the discovery of 'findings not arrived at by means of statistical procedures or other means of quantification' (Strauss and Corbin 1990: 17).

Critical realism (CR), developed within the school of critical social theory, provided an overarching frame for this study and argues the world exists independent from our knowledge of it and that our knowledge of that world can be fallible (Zachariadis, Scott, and Barrett 2010). Bhaskar also argues that seeing 'society rationally and emergent' and adopting a 'transformational model of social activity' helps overcome the dualisms prevalent in social science research (Bhaskar 1998: xiv) namely positivism and hermeneutics, individualism and collectivism, agency and structure, values and facts, reasons and causes, and mind and body (sometimes referred to as society and nature) by employing a 'modified naturalism' which recognises the difference between the natural and social worlds, yet also acknowledges their commonality on the 'connection between empirical investigation and theory construction' (Porter 2002: 62). CR emphasises four key points:

- the relationship between structure, action and context is complex and multi-layered;

- rigorous observational research is required to lay bare the 'interactions of individuals both at the level of action and motivation';
- the use of theoretical constructs is required to explain the pattern of action by individuals;
- an acceptance of 'the existence of structured, but non-determining social relationships' (Porter 2002: 70).

CR argues the world is 'a pre-existing condition for intentional agency' and that 'society is both the condition and outcome of human agency and human agency both reproduces and transforms society' and that society is a 'pre-given for individuals who never create it but merely reproduce or transform it' (Bhaskar 1998: xvi). CR acknowledges 'actors' accounts (are) both corrigible and limited by the existence of unacknowledged conditions, unintended consequences, tacit skills, and unconscious motivations' but recognises that 'actors' accounts form the indispensable starting point of all social enquiry' (Bhaskar 1998: xvi).

Several further core elements underpin the critical realist approach including the notion that there is 'an ensemble of structures, practices and conventions that individuals reproduce or transform' (Bhaskar 1991: 76). CR accepts that social situations should be subject to a multilayered investigation involving the relationships between the layers and will involve the development of abstractions that are drawn from 'the real stratification (and ontological depth) of nature and society' in an attempt to 'grasp ... precisely the generative mechanism and causal structures which account in all their complex and multiple determinations for the concrete phenomena of human history' (Bhaskar 1998: xvi). Further, the world consists of intransitive things that exist and act independently of our knowledge of them, and transitive objects that are 'artificial objects fashioned into items of knowledge by the science of the day' (Bhaskar 1998: 11). CR research recognises the dynamic interaction between three layers: the real, the actual and the empirical. The real is the world as it exists; the actual is that part of the world as we experience it; and the empirical is that part of the world we can research and capture. Looking at ICT, Mingers (2004) argues that whenever someone uses a computer, she is accepting that there is an existing set of 'structured, intransitive domain resources, concepts, practices and relationships' (Mingers 2004: 386).

Employing Bhaskar's notion that 'illusions are in one sense real and in another sense unreal' (Bhaskar and Callinicos 2003: 104) it is possible to conceive of a situation where the illusion, for example of a person believing they are not alienated, can be real and unreal at the same time creating a contradiction where illusion and reality inhabit the same emotional and intellectual space. The focus then becomes how this contradiction can be resolved which does not necessarily mean the contradiction is resolved by the recognition of the illusion. It can also be resolved, even if temporarily, by the power of illusion impacting on reality by taking the form of a concrete action. Bhaskar refers to the 'spontaneous, unpaid creativity of the workers' that enables workplaces,

be they production lines, offices or call centres, to keep going (Bhaskar and Callinicos 2003: 105).

In echoing several themes outlined by Marx in *The German Ideology* (Marx and Engels 1970), Margaret Archer (2010) developed an approach to CR that centres on 'processes which tend to elaborate or change a system's given form or state' (Buckley 1967: 58 in Archer 2010: 274) and where events leave a condition unchanged. Involved in this perspective are considerations associated with actions and/or structures that constrain or enable change. Archer also contends that a double morphogenesis can occur where 'actors themselves change in the very process of actively pursuing changes in the social order' (Archer 2010: 274).

The process used for the research was one that:

- recognised the depth of analysis research on alienation requires;
- coped with notions of mediation;
- incorporated potential and existing relationships between people and objects;
- handled relationships between people;
- accommodated the ebb and flow of manifestations of alienation;
- searched for the generative mechanisms that create expressions of alienation;
- was amenable to managing results that are non-linear and changing;
- encouraged the researcher to embrace the reflexive capabilities of research participants;
- appreciated the creative input of those who participated in the research;
- could relate to notions such as powerlessness and estrangement as they are interpreted in Marx's approach to alienation.

The theoretical framework used for this research gave voice to the agent while recognising that this voice was conditioned by context and articulated experiences without fully appreciating the nature of the external causes of those experiences. Research driven by CR echoes Marx's own approach to understanding the world. Simply observing and recording activity and material conditions of life do not enable us to comprehend how these conditions and their attendant relations work or are generated. The task is to distinguish between the outward appearance of things and their deeper essence (Callinicos, 2012). To facilitate this process Marx uses the power of abstraction to strip away all an object's or a relation's specific concrete attributes to reveal their essence and thus to develop a general concrete abstraction. This process, focusing on mediation, involves three phases: recognising that the world as it presents itself to us is its appearance, not its total reality; to engage in an intellectual activity of abstraction which involves breaking down appearance into manageable parts for investigation; and finally, to reconstruct our understanding of reality using abstractions that enable an examination of the material world.

The work of Seeman and Blauner and their problematic approach to alienation highlighted the need to ensure that researching alienation does not lapse into an investigation simply concerned with satisfaction within a given context, such as occupation. It demands an appreciation of movement and influences at a deeper stratum than, say, job satisfaction. An alienated condition need not always be apparent to those experiencing alienation because it can seem part of the 'natural' order of things. In the language of CR, alienation can reside in the real layer not readily recognisable or observable. This study therefore required a set of tools that enabled expressions of an alienated condition to move through to the actual level thus allowing for empirical observation and it made use of a qualitative approach that embraced CR and participatory action research (PAR). Operating in tandem, they provided a range of options that allowed for the generation of activities that encouraged expressions of alienation to bubble to the surface. As will be seen in the analyses of the settings chosen for this study, adopting these research strategies and fashioning them into whole approach enabled access to apparently contradictory experiences and facilitated the exploration of these contradictions as well as providing an explanation for their existence. Marx's theory of alienation highlighted the way to using CR and PAR.

3.2 Data Collection Process

The data was collected using semi-structured in-depth interviews, focus group sessions and a series of hands-on ICT training sessions all of which drew upon Marx's theory of alienation to structure focus group, interview and hands-on session activity. The focus group activity for the ICT professionals was conducted at their workplace. Follow-up interviews were undertaken online using Skype. The interviews with the scholars were undertaken online using Skype. All the activity with the SPAG participants was carried out face to face. The duration of the interviews varied but almost all took over an hour with some lasting much longer. In the context of this research, I do not consider that the online environment had an adverse impact on the data collection. The data collected from the three settings have been integrated into wider contexts as they relate to the specific settings.

There can be difficulties associated with qualitative interviews such as ambiguity of language, constructing knowledge, and interviews going wrong (Myers and Newman 2007). Sensitivity to these problems ensured that none were encountered during data collection and the process ensured that the principles and priorities such as minimising social dissonance, representing various voices, flexibility, and confidentiality, were not undermined.

The group interviews used in the ICT and end-user scenarios were designed to enable in-depth discussion involving a set of between six and twelve participants. Resource-low, yet data-rich, group interviews can point in directions that perhaps results from the single interview can miss and can help 'lift

the veils covering the sphere of life than any other device' (Blumer (1969) in Flick 2018: 255). However, there can be problems with this technique such as the dominance of discussion by a single or small group of participants; internal group dynamic; and researcher-mediated interventions (Smithson 2008). Awareness of these issues helped develop appropriate ways of working that minimised their adverse effects on the research. Thus, the data gathering activity concerned with the ICT participants consisted of a group discussion supplemented with follow-up individual interviews which required to bring to the surface how the professionals felt about ICT and therefore choices had to be made about what questions, both in terms of form and content, needed to be asked and the balance that was required to meet the demands of the research task. The protocols designed for the group sessions and individual interviews were informed by four key imperatives: the need to collect raw data directly associated with the priorities of this research study; the desire to encourage an opening up of the discussion to facilitate data collection; to bring to the surface attitudes otherwise hidden from view; and to encourage a reflective process during the discussion itself.

The three settings facilitated an approach that focused on resonance through 'transferability and naturalistic generalisations' rather that statistical generalisation (Tracy 2010). The 'stories' this book relates create transferability by connecting with readers and evoking within them 'the idea that they have experienced the same thing in a different arena' (Tracy 2012: 845). Naturalistic generalisation is realised when we reflect on how the stories of alienation within the book speak to us and connect with our own experiences. In doing so it helps us identify and clarify the causes and expressions of our own alienated condition. A multi-group approach also enabled triangulation, the application of differing methodologies in the collection and analyses of data in the study of the same phenomenon, as it is related to data validity, thus buttressing the scientific rigour of the research project. Flick (1979) argues that in qualitative research, triangulation can employ the use of multiple comparison groups and refers to the within-method which 'essentially involves cross-checking for internal consistency reliability' and the between-method 'which tests for the degree of external validity' (Flick 1979: 603). While triangulation often focuses on data collection validity, in the context of this study triangulation is related to the effectiveness of Marx's theory of alienation. Each setting is supported by the reference to existing research as well as the material conditions experienced by the participants.

3.3 Participatory Action Research (PAR)

A basic premise of PAR is the discovery of voice by adhering to the view that participants can project their own voice rather than have the researcher act as spokesperson for their concerns. Here, participation becomes part of a shared

activity with participants sharing decisions, organisational tasks and obliga-
tions. PAR researchers can intervene in the research arena rather than simply
withdrawing after completion of the research leaving the situation unchanged.
Although a relatively recent addition to the research toolbox, PAR has devel-
oped a rich tradition within social sciences for investigating issues of exclu-
sion, marginalisation and disadvantage, and requires collaborative research in
which participants actively engage in, and possibly help shape, the research
agenda. The collective reflection of participants is highly valued as is their
inclusion in the planning, action and observation phases of a research project.
The aim of PAR is to move beyond suggesting changes that arise from research
to 'incorporating methods for translating the knowledge gained directly into
practical decisions and/or practicable courses of action' (Fournier et al. 2008: 2).
There are however issues associated with the authenticity of outcomes arising
from research using PAR since the researcher is not an impartial observer (if
such a thing is possible!) but becomes involved with the subject of the research
and thereby can directly influence events. The 'concerns of conventional
researchers about objectivity and controls are replaced in action research by
concerns of relevance, social change, and validity tested in action' as Brydon-
Miller, Greenwood and Maguire (2003: 25). PAR also questions the separa-
tion of theory production and theory application and involves the participants
in processes seeking to establish the validity of research outcomes. The belief
that there may be doubts about the veracity of findings from research using
PAR is strongly influenced by the positivist tradition. The immediate issue was
then to ensure that enough rigour had been employed in the research process
to realise results that have credibility, dependability and transferability (Guba
and Lincoln 1994). The CR perspective also adds that results are the nearest
approximation to reality and are therefore by implication fallible. Recognising
the potential pitfalls of a research programme using PAR is of itself the first step
towards applying appropriate rigour.

   PAR requires that participant involvement reaches beyond that experienced
in more traditional research activity. The tone, style and manner of deci-
sion making adopted at the start of the research are critical for engendering
a positive attitude towards PAR from participants. Since participants should
be involved from the start, they should be able to meaningfully influence the
choice of research tools to be used. Moreover, if the spirit of PAR is applied in
practice, and as the research was concerned with ICT and alienation in differ-
ent contexts, the specific research methods and/or priority of method would
vary since the participants in the different contexts expressed different aspects
of alienation because of the relationship between totality, mediation and imme-
diacy.

   There was also a need to adopt an appropriate practical way of working sup-
ported by a range of relevant tools that allowed for the generation of appropri-
ate data; and a recognised need to create environments that encouraged the
researcher and the participants to develop a close, shared working relationship.

Thus, the sentiments underpinning PAR were signposts that guided the direction of the research activity. PAR was not utilised in full in the three scenarios but it was particularly effective with the end-users' hands-on sessions and was partially employed in the setting concerned with the ICT professionals since it resulted in the production of a paper circulated to their own trade union. PAR was not effectively used in the setting associated with the scholars although a draft of the relevant chapter was circulated to all the scholar participants for comment and discussion.

One element of the research involved a close working relationship with members of the SPAG. This took the form of numerous 2-hour hands-on sessions with the objectives of the sessions being discussed and identified during pre-session conversations. Consequently, while I was intimately involved in forming the shape of the sessions, their priorities, content and purpose of each session was driven by the SPAG participants. This is a relatively unusual, but not unique, approach to research in this area but it proved to be effective in focusing on alienation.

3.4 Target Group: ICT Professionals

Chapter 1 identified the theme of the research which was to engage with participants experiencing ICT in a variety of very different contexts and in different ways, to examine the relationship between alienation and ICT. The following outlines the rationale for, and the processes related to, the selection and involvement of participants for this part of the study. ICT professionals rarely feature prominently in research concerning ICT and alienation. The limited research is often of a quantitative nature, never involving a collective approach, drawing upon the problematic approaches adopted by Seeman and Blauner thus being primarily about job satisfaction rather than alienation. Making ICT professionals within a collective environment an integral part of this study addressed this weakness. My focus on a large-scale ICT company in the United Kingdom offered four benefits:

- it would employ ICT professionals across a range of skill sets;
- there would be a much greater possibility of finding a suitable group of subjects;
- the geographic location enabled reasonably easy access to the potential participants;
- it provided a set of participants with shared interests.

These were important aspects since they enabled access to a robust sample which facilitated the successful completion of the data gathering. The challenge was to find a group of participants who would be prepared to discuss their roles within an organisation in a group interview; who would feel comfortable

in such a discussion; and some of whom would be prepared to be interviewed on an individual basis. An approach to Human Resource departments was rejected for three reasons. It was an inefficient way to contact the target group since it depended on several factors beyond immediate control, such as HR departments having the time and commitment to provide contact names and email addresses. There would be no guarantee that the resulting contact group would show enough interest in the research programme or indeed would have the internal coherence to facilitate a free and frank exchange of views in a group interview.

The second reason for rejecting this approach flowed from the need to engage with an existing internally coherent network that would help clear away many of the problems associated with establishing group confidence. Finally, rejecting this method stemmed from the nature of the research project itself with its strong emphasis on a 'bottom-up' approach to contacting the target group. Rejecting more formal approaches to ICT professionals via management structures opened extremely fruitful avenues for developing contacts which proved to be very efficient in providing ICT professional participants.

An email to branch organisers (as opposed to full-time officials) of trade unions representing ICT professionals in the United Kingdom outlined the nature of the research programme and asked if they knew of interested members. One of the organisers circulated details of the project to several contacts and put together an interested group. This group consisted of participants who all worked for the same organisation and already knew and worked with each other, thereby meeting some of the critical criteria identified above for group participation. The union organiser was prepared to convene meetings of this group. Adopting a method influenced by PAR resulted in effective access to one of the target groups required for this aspect of the research. The next section discusses the scholars' setting.

3.5 Target Group: Scholars

Several reasons contributed to the choice of the second group of participants. The first was to undertake the research in an apparently benign environment where it seems that scholars have a significant measure of control over their activity and are highly motivated by their work because of their strong commitment, sometimes dedication, to the subject. The second reason was directly connected to the work of these scholars. If it emerged that the way they undertake and publicise their research is flawed or compromised, arising from alienated conditions, there are significant implications for the way they are researching and publishing on ICT itself.

This part of the study also needed a range of participant profiles: those who have had a long involvement in the area; those who were considered relative newcomers to the field; and finally, the need to obtain a spread by gender and

locality. Contacting potential interviewees for the first group via the editorial boards of journals was most effective since membership indicates a proven track record in the field; points to participation in a relatively stable academic network; involves knowledge of current developments in the subject; and signals an appreciation of the scope and history of the ethical and/or societal implications of ICT. Two further advantages of using editorial boards is they do have a good spread in terms of nationality and gender.

Finding a selection of potential interviewees for this group involved reviewing articles in journals and/or papers to conferences as well as approaching research units to identify those researchers whose contributions to the subject area are relatively recent, did not reside in any one location and were of different genders. It was also recognised that a Eurocentric bias within this setting could undermine the possibility of generalising any following analysis and it was decided therefore to seek participants from a range of continents. Although scholars from Asia had agreed to participate in the study, it was not possible for them to be interviewed because of logistical reasons.

As with many areas of activity involving academics, and particularly research scholars, those involved with ethics and/or the societal impact of ICT, tend to form part of networks often clustered around journals such as *Ethics and Information Technology*, the *Journal of Information, Communication and Ethics in Society* and the *International Review of Information Ethics* or events such as the Ethicomp and the ICTs and Society conferences. These journals and conferences are often based within academic institutions such as the Centre for Computing and Social Responsibility at De Montfort University, UK; the Department of Communications at the University of Pretoria; and the Institute of Philosophy at Katholieke Universiteit Leuven, Belgium. On occasion, as with the 3TU Centre for Ethics and Technology, the research centre can be formed by two or more academic institutions. While there can be a significant overlap between the two broad areas, research concerned with ICT ethics and that focused on the societal impact of ICT, the relatively recent explosion of research in these areas, as witnessed by the breadth and depth of topics covered by conferences such as Ethicomp, means there is a wide pool of people to approach for research of the type covered by this study particularly for researchers who are new to the field.

3.6 Target Group: End-Users

The choice of the Southwark Pensioners Action Group (SPAG) for the third setting was informed by the need to research a setting that contrasted with the other work-based settings and focused on end-users. The scenario focused on age, alienation and ICT revolved around participants who would be prepared to engage in the research from a PAR perspective; were prepared to commit to the research programme for an extended period; were interested in discussing

at length the issues covered by the research; and would undertake an activity that would provide a rich source of data. The specific choice of the Southwark Pensioners' Action Group was driven by several favourable factors. SPAG was local and has easy access to premises containing a purpose-built computer suite. Membership exceeds 100 and it has an active programme of meetings and events focused on raising awareness and campaigning on issues that affect the health and independence of older people on a range of topics. Consequently, it has an internal coherence in terms of structure and mutual support. Many of its members also belong to other groups such as the Southwark Pensioners Forum (SPF) and the Southwark Explorers Club (SEC), resulting in a friendly, active and lively group.

SPAG campaigns have included opposing the closure of the Maudsley Hospital Felix Post Unit, a specialist mental health service for older people; challenging changes to Accident and Emergency Services which reduced specialist emergency treatment for people with mental health issues; regularly lobbying local and national politicians about the erosion of the value of the old age pension and the position of many older women who receive significantly less income than men. SPAG used the premises of the Southwark Pensioners Centre (SPC) which offers a range of services and activities to people over 50 in the London Borough of Southwark. It enables older people to enjoy a good quality of life into healthy old age by providing services, information and a community resource centre working to promote choice and opportunity for the diverse population across the borough. Over 800 people are in contact with the SPC and it has 20-plus affiliated groups and community organisations. In the learning sessions with SPAG it became apparent that participants had several objectives and a range of motives most of which were directly connected to the roles they had in organisations such as charities.

For the researcher, working with a group like this can help avoid the problem of 'wrenching people out of their social milieu' (Forsey 2013) and it helps promote and facilitate communication between participants. Further, there was a motivation to engage in a supportive, collective environment that would facilitate an exploration of the idea that certain conditions could ameliorate the negative impact of alienation. The decision to adopt PAR, as far as possible in the research, also influenced the decision to use SPAG. While the administrative infrastructure of SPAG relies on ICT, many of the elected officers had limited expertise in ICT. In addition, it had many members with little or no experience of ICT and therefore offered the potential of providing a group of people with varied ICT skills but within an overall supportive environment.

For ease of reference, a full description of the research process along with details concerning the coding for each of the settings is available within the original PhD research. (See bit.ly/3kWy4vO: relevant appendixes are G to N). The file fully describes the development of the research project and contains a number of diagrams showing the trajectory of the research and how general and context specific codes were developed as well as the descriptive codes used

in the analyses for each of the three settings. The coding diagrams indicate how the activity was driven by the precepts derived directly from Marx's theory of alienation as well as the desire to embrace a CR perspective.

3.7 Ethical Considerations

Social research needs to recognise and meet the ethical standards increasingly demanded by academia and society. This especially so at moment when, as will be discussed in chapter 5, there are numerous problems associated with falsified data, questionable analysis, the effectiveness of peer review and the proliferation of predatory journals. There was no organisational or institutional imperative or pressure, financial or otherwise, influencing the goals of the research, the methodology followed, or the analysis and ownership of the results of the research. The publication of this book within the academic commons confirms a commitment to the view that access to all academic discourse should not be subject to financial constraints.

At a deeper level however, a possible conflict of interest may have arisen between my needs as researcher to complete the research project and the objectives of the research participants. This was particularly so for the setting involving the pensioners from south London. There was an imperative for me to disengage from the activity whereas for the participants the activity was viewed as an ongoing engagement. At the heart of this contradiction was the need to fully grasp the notion that any participant in any research programme must not be considered simply as means to an end. A further ethical issue arising from the collection of data concerns guaranteeing the confidentiality of the participants given that all interviews and parts of the hands-on ICT training sessions were to be recorded for later analysis. This was addressed by asking each interviewee before the interview if they agreed to be recorded; at the same time, it was stressed that their anonymity would be respected in the publication of the findings and chapters 4, 5, 6, 7 indicate an unconditional adherence to this commitment.

CHAPTER 4

Alienation and Work: ICT Professionals

4.1 Introduction

This chapter explores the effectiveness of Marx's theory of alienation in excavating and bringing to the surface the experiences of ICT professionals to create a narrative enabling them to articulate their working lives as they see them, to place that narrative within the general trends evident within the sector and to theorise their experiences. The ambition is to focus on what Lukács calls totality, mediation and immediacy (Lukács 1971). The chapter opens by describing the participants of this setting and then goes on to briefly consider the meaning of professionalism. It then reviews the current research concerning ICT professionals before outlining the key characteristics that define the IT industry to provide the overarching environment within which the ICT professionals who participated in this study work. It then presents the findings of research looking at the work experience of a group of ICT practitioners.

The ICT participants worked for a multinational ICT company, ranked in the top ten of computer manufacturers, employing 150,000 workers worldwide. It offers a range of services including outsourcing facilities, database management and the provision of servers running on various platforms to customers which include large multinational enterprises, governments and public sector organisations in over 100 countries. A structural characteristic of this type of organisation is the allocation of work between separate divisions, with each main economic centre and service functioning semi-independently under the overall umbrella of the parent company. Like many ICT enterprises, the company had been adversely impacted by the economic crisis of 2008 and sought to implement a range of ameliorating strategies, including off- and near-shoring, and expanding the internal market. The economic crisis provided an additional thrust to trends already evident such as the commoditisation of its products as opposed to the development of products specifically tailored to the needs

of a customer, thus accelerating the deskilling of the ICT professionals. The nature of the industry demands that the company must proclaim itself to be innovative, seeking to attract customers with its reference to implementing ICT systems that can anticipate developments in the sector. Participants for this part of the study included those from a wide range of ICT activities such as project managers, database software engineers, asset administrators, system design and development engineers, risk management experts and quality control specialists. The group was a mixture of women and men with ages ranging from mid-thirties to early sixties. All the participants were involved with their trade union and described themselves as being experienced users of ICT.

4.2 The Meaning of Professionalism

There is no common definition for the 15 million people who work as ICT professionals in the OECD countries or for the millions of others who work elsewhere (OECD 2012). In 2017 8.4 million persons worked as ICT specialists across the EU-28. As well as the observance of professional standards and so forth, Cruess et al. (2000) note the social contract between society and the professional, and the possible vocational nature of the work encompassing an adherence to notions of morality and virtue. Looking at consultancy work, Furusten (2013) tracks the emergence of commercialised professionalism which is regarded as the new professionalism and there is a tension between professionalism and commercialism as well a trend away from more traditional forms of professionalism towards the managerial professional model. Membership of the British Computer Society Chartered Institute for IT is open to anyone who has five years relevant experience in the industry covering 'any aspect of building, maintenance, management or operation of IT or in teaching or training (at degree level) related to the knowledge and skills appropriate to that activity' (BCSCIIT 2013). Other associations widen the notion of professionalism to encompass non-technical attributes. Canada's Association of Computer Professionals (CIPS) moves beyond a reference to technical skills and describes an IT professional as someone working in IT but who also has a commitment to an ethical code of practice (CIPS 2009). The development of codes of ethics or professional conduct is evidence that the notion of professionalism sees ICT practitioners as individuals rather than part of a collective body thus placing responsibility for professional behaviour on the individual. The participants in this part of the research were not filtered by reference to any formal adherence to codes of ethics or conduct: the emphasis was on their technical capabilities and responsibilities.

4.3 Current Research on ICT Professionals

Study of ICT professionals and engagement is generally absent as a focus of scholarly research (Pittenger, Perelli and Somers 2012). The limited studies

undertaken focus on, for example, resolving problems such as employment turnover of ICT professionals or how to control their activity (Ramos and Joia 2013). This limited amount of research is surprising given that so much has been written about the importance of the technology to so many aspects of human endeavour. Further, when such research is undertaken, it frequently takes a quantitative approach using online questionnaires or a mixture of quantitative or qualitative methods. The aspirations, perspectives and thoughts of the ICT professionals are reduced to quantitative analysis with evidence taking the form of levels of significance, standard deviation statistics and model coefficients and conclusions focusing on 'snapshot statistical relationships' (Tong et al. 2013: 29).

There are some exceptions to this trend, such as the series of semi-structured interviews with ICT professionals based in Norway (Rasmussen and Johansen 2004) but even here the focus of the study was to argue that by giving professionals some sense of autonomy, it was possible to get them to work long hours, often with unpaid overtime. A significant exception is the research undertaken by Xiang into the practice of 'body shopping' where he carried out extensive interviews with IT professionals in India (Xiang 2007). Interestingly, where the focus is on the experience of women working in ICT, the research methodology tends to include extensive use of in-depth interviews (Clerc and Kels 2013).

4.4 The State of the IT Industry

Gartner reports that global IT spending could total $3.9tn in 2020, an increase of 3.4% on 2019 with the shift of enterprise IT spending from traditional (non-cloud) offerings to new, cloud-based alternatives continuing to drive growth in the enterprise software market. In 2019, the market forecast was $456bn, up 7.1% with an anticipated 10.5% increase in 2020 (Gartner 2020). Additional key drivers are enterprise software and ICT services with an emphasis on replacing direct ownership of ICT with service provision. Despite the recent growth in IT expenditure, the overall context continues to be one dominated by a global slowdown in economic development fuelling the need to cut costs leading to the need to increase IT spending further yet still to cut costs. Further, as IDC reports, there is a narrowing of focus by businesses and consumers in traditional tech spending on just four platforms: cloud, mobile, social and big data/analytics while the expansion of new technologies such as AI, robotics and AR/VR (augmented reality/virtual reality) will represent a significant investment (IDC 2018). The ICT industry has been and continues to be intensely competitive.

Regional and sectoral variations exist within this process which is also contradictory since concurrently there has been an increase in cooperation between providers of ICT (Pellegrin-Boucher, Le Roy and Gurău 2013). Further, experiences differ within the industry between companies that provide ICT services and those concerned with manufacture. The former employs significantly more ICT professionals than the latter in advanced economies of the West and is the

industry's most dynamic segment as witnessed by its relatively more positive recovery from the crisis of 2008. The provision of ICT professionals from developing countries for service contracts in the more advanced economies (under the odious name, 'body shopping') is a significant growth sector where businesses loan out the technical expertise of an organisation's employee. It enables companies to access skilled individuals or a team of professionals to work remotely or on the business's own premises, in conjunction with its existing teams (Coles 2012). Initially directed to ICT experts from countries like India, it is increasingly considered an attractive option for ICT companies based in America and Europe (Coles 2012). The emergence and rapid growth of body shopping emphasises the profoundly shifting nature of ICT work particularly so when it occurs within a fragile and uncertain economic context (Roberts 2019). The economic fallout from Covid-19 is likely to have a further adverse impact on the technology sector. It is within these overarching adverse conditions that ICT professionals ply their trade. Yet, rarely, if ever, does research encourage ICT professionals to come together to discuss and reflect upon their experiences in a collective environment. In short, in most of the research the voice of the professional is refracted, perhaps distorted, through the prism of the researcher and she is treated as an isolated individual. Having contextualised this setting in terms of current research, the discussion will now briefly reprise the categories of alienation outlined by Marx.

4.5 The Alienated Working Environment of the ICT Professional

Marx identified two key drivers of alienation arising from commoditisation of labour namely: alienation from the products and processes of labour, and the approach adopted for this case was focused on these aspects that generate alienated relationships. In the following discussion the gender of the participant is identified by F for female and M for male. This is followed by their job title. The context of the comment is identified as GD for group discussion and II individual interview. Working at the very heart of the industry, the ICT professionals who participated in this aspect of this research were extremely aware and articulate about their position in the work process and they frequently talked about the commoditisation of the work process. In this context, commoditisation means the breaking down of the work process into discrete elements that can be reused in different projects. It involves a process where software tools make work repeatable and take out the variability and risk. For this company, work derives from external and internal requests. For external work, project tendering is used to obtain business for the company and the company's sales force determines the job scope and cost, and creates and makes the pitch for a contract. '…*people at a high level… design and cost it and… if the contract is won there is work to do to develop something we could deliver… a 100*

people (could be) working for a year before a contract is signed… we could be working on something that is never made' (M4 Systems Designer GD). Another participant added *'… assignments come from the customer. They come down to us…'* (M1 Project Manager GD). From the very start of the process, ICT professionals are denied even minimal control over which product may or may not be developed. For internal work, requests are generated by managers. Either way, the requests are channelled through to the ICT professionals via management structures. This is reflected in job descriptions since *'within the company there are… people with jobs where the managers give them stuff to do and… move you around on different tasks… the company works on an assignment basis' (*M4 Systems Designer GD).

ICT professionals do not have a real choice about what type of project they work on. *'We do… what the contract says… forget ethics and forget your personal opinion or personal feelings… That is your job and you do it'* (M1 Project Manager GD). The participants recognise their lack of power over how the outcomes are used. *'I don't have any control over that at all other than if we are aware there may be some ethical issues that we might take a stand on'* (M2 Software Engineer II). Another commented that *'… I have no control over what might be stored in… a cloud provision, only…what types of data it might be'* (M4 Systems Designer II). Talking about a specific project, one participant said, *'I have no control over how it is used... a complete damp squid would be if we introduced (video conferencing) and people continued to (use) motorways'* (M1 Project Manager II).

As the following quote indicates, a further problem arises from changes arising from external pressures on the ICT sector such as the drive towards separating so-called commodity functions from core activities.

> When I joined the company… there was little assignment work. The change has come from…being a proper IT company into a service company… Most of the industry is going through that… We have also changed from providing propriety products… to an industry being very much standardised and commoditised type of technologies… our skills have become standardised as well (M4 Systems Designer GD).

The provision of an IT service has far reaching implications for the professionals who are involved in the work. The development of, for example, physical infrastructures employing cloud technologies (constructed using standardised and commoditised IT elements alongside IPR) results in a situation whereby the commodities ICT professionals work on create an adverse impact on the way they work. They are effectively undermining their own skills and professionalism. As one of the participants commented, *'companies can use this as a pretext to reduce pay and benefits… to lower the status of the job… people are being squeezed quite severely'* (M1 Project Manager II). Continuing the same theme another added, *'In a sense we produce*

our employers' means of production in developing the infrastructure and services, then deploy those means of production to deliver services to customers' (M4 Systems Designer II). Having looked at the problem of control over outcomes, the discussion will now shift to look at the work process as experienced by ICT professionals.

4.6 Control of the Work Process

This section opens by looking at the manner work is allocated within the company and is followed by an examination of the way in which the work process is organised. As part of this discussion reference will be made to the impact the economic crisis of 2008 had on the industry and to more recent innovations, such as lean IT, as they apply to the working environment of IT professionals. This discussion relates to Marx's theory of alienation since he talks about the control of process as well as product being a critical element in this condition and touches upon the issues he raises when he refers to the real subsumption by capital of the working process.

Assignment work demands an extended cooperative team effort. *'You will get a whole lot of different people involved in assignment and project work'* (F1 Asset Manager GD). Mention has already been made of the way in which the work is allocated via the resource/assignment manager. For the professionals working on assignments it is *'like being a contractor, where you work on a series of assignments from projects or customers and it is people running* [the project] *that who give you stuff to do'* (M4 Systems Designer GD). Elaborating on this process, another participant said that when a project is proposed *'they need a project manager and a service manager or a customer solution architect and…they will go to different parts of the company that have these resources and say this is what we need'* (M1 Project Manager GD) and the assignment manager will *'deal out or offer assignments as they come along to a smallish team of project managers'* (M2 Software Engineer). This is an intensely developed internal division of labour which is a crucial contributor to Marx's view of alienation.

Details of projects and associated requirements are normally advertised on the company's intranet making it seem that IT professionals can select the projects they prefer. The reality is different: *'… people do… pick what they would like to do but… pressure (is) put on them by line managers to do a certain one (job)… In theory you can pick… your own assignment but in practice you get pressurised to do certain work'* (F1 Asset Manager GD). For internal service work, sometimes work allocation is far from clear: *'… in theory you are supposed to have objectives that give you an idea of what you are supposed to do but I don't have anything and neither does my manager… it is very disorganised'* (F2 Quality Control GD).

The demands of assignment projects also require tasks to be clearly itemised. This is common practice with consultancy and service project work meaning

professionals detail the scope of work and the timeframe within which it is to be completed. Since clients demand evidence tying work completed to invoices, a very tight record of day-by-day and hour-by-hour allocation of work is required. In this company, this process is increasingly being applied internally activity. Previously, departments billed on actual time taken for a job but now the firm wants:

> to move to fixed price contracts where the department would be paid the same whether it takes a day or a fortnight [this means] increased supervision… more stats on comparative times... Managers ask why that job is taking twice as long as a similar one (M4 Systems Designer II GD).

The description here is one of increased scrutiny of the professional to get greater control over what s/he does and the time it takes to do it.

It might be thought that project managers would have, in this environment, a significant degree of latitude over how they handle their tasks. However, as the following quote indicates, orthodox project methodology, in this instance Prince2 (a structured project management method), dominates and controls the work process: *'Project managers follow Prince2… project methodology (which) is a pretty intense methodology to follow and… most of our customers… want (it) ... we have to follow that from the very beginning of the project…'* (M1 Project Manager GD).

The same highly prescriptive and constricting boundaries reside in work processes of professionals working on internal IT requests where those involved *'in delivering a service follow the ITIL methodology* [Information Technology Infrastructure Library]. *On our company intranet there are methodologies (and competencies) for just about every role there is in the company'* (M1 Project Manager GD). This is the imposition of highly organised frameworks laying down common guidelines for each skill set to which each professional must adhere. External pressures resulting from the nature of the industry has meant that the ICT firm concerned *'has definitely accelerated and driven reorganisation internally with a push towards commoditisation and standardisation with the use of templates and all that kind of thing'* (M4 Systems Designer II).

The economic crisis of 2008 intensified competition within the IT sector and while there has been pick-up in ICT spending following the significant cuts experienced in 2008, demand for IT products is uneven with some technologies becoming rapidly obsolete with customers looking for the cheapest but not always the most effective option when planning to overhaul or modify existing IT systems. Further, the focus is very much on cloud computing. Previously, *'… you could have three/four years where every year the government would…want enhancements to existing systems or new IT stuff (which would mean)… six figure (contracts)'* (M2 Software Engineer II). This type of work has significantly reduced.

The structure of the contracts undertaken by the company has also altered. *'Before, the government would put out multimillion-pound contracts… What they are… doing (now) is to tender for relatively small chunks of business. In my own work, projects are being shelved or put on ice'* (M1 Project Manager II). These tendencies have multiple adverse impacts on the work of the ICT professional, with a negative influence on the skill base, the increasing insecurity of employment, a continuous and rapid churn of technologies, and increasingly interventionist management techniques.

Although mention has already been made of the standardisation and commoditisation of the industry, it is worth exploring this in more detail. The participants were acutely aware of how the change in the industry affects their skill level.

> We (are) an industry (based on) very standardised and commoditised type of technologies… so our skills have become standardised as well. Whereas twenty years ago people had a niche skill with individual negotiating bargaining power, we are now moving rapidly towards a situation… where you will have more intense competition both internally and externally, where companies just compare on price and this reflects on how they treat people (M4 Systems Designer GD).

This view is supported by another participant when he says that until recently *'there seemed to be immense scope for people to show creativity… the company is developing standard offerings which have dumbed-down… you could construe [this] as a drive to the bottom'* (M1 Project Manager II).

The professionals are also aware that as their skill level is jeopardised, the company has reduced its commitment to encouraging staff to update existing skills or develop new skill sets. *'Once upon a time… there was a lot more support from the company, who would take an active role in developing… careers… this had been whittled away'* (M5 IT support GD). People with legacy skills are now made redundant and the company *'hire people with new skills that they require to move the technology on. This is preferable to redeveloping the skills of the existing workforce'* (F2 Quality Assurance GD). As another participant records, *'I used to have a career development manager… now you have to battle against the business imperatives'* (M2 Software Engineer GD).

There are also adverse consequences on conditions governing terms of employment which flow from the intensely competitive nature of the IT industry, the way the industry is structured, and the tendering process used to award contracts. Work has been transformed into fragmented, smaller bolt-on chunks with projects increasingly and frequently being renewed. Contracts tend to be won by the large IT companies and large contracts can repeatedly involve multiple companies. While there has been an increase in smaller types of contract, large-scale contracts, such as Fujitsu's 60 million euro, six-year

contract with credit management services provider, Lowell, are still in play (Fujitsu 2019).

One participant talking about large contracts describes it thus: *'Many… are won by consortiums where big IT companies are competing with each other and being partners… they are partners, they are competing… because they want to win more work from the client'* (M4 Systems Designer GD). Supporting this view, another professional adds:

> When the NHS decided to split the country into five clusters and each cluster had its own IT, X firm was involved in all the clusters. We were involved with X on one or two of the clusters on a bid but they also chose to bid on that cluster by themselves. So at one point we were working with them but we had to be careful with our company secrets and confidentially and on the other hand they were bidding against us for the same work (M1 Project Manager GD).

Another participant provides further evidence in support: *'The contract I am working on now provides services for XX and another company is providing a similar service… we are now…reallocating work… (the other ICT company) is taking bits* [of the contract] *and we are giving them bits…'* (M6 Network Engineer GD). This means those employed on external assignment contracts work in a close but contradictory relation with a direct competitor because they are supporting and developing the same systems.

When an existing contract is lost to a competitor, it does not necessarily mean that the professionals working on the ground change: they can be simply transferred to the new provider. This process is referred to a being TUPED which refers to the Transfer of Undertakings (Protection of Employment). TUPE regulations maintain employees' terms and conditions of employment when a business is transferred from one owner to another. TUPE transfers are widespread in the industry and one professional says:

> Once upon a time TUPE didn't exist anyway, but… contracts are being won and lost and, in our company, the HR are, well, there are a lot of problems here and there is a lot of job insecurity. If you are told you are in a TUPE situation from your current employer to a new employer, then it is good that you are not in a redundancy situation but it can be damn close to that if your potential new employer is only able to offer a change of location which is well beyond commuting distance (M1 Project Manager GD).

While the TUPE process is a general experience for most ICT professionals in the UK working on medium- to large-scale contracts, TUPE safeguards are not applicable for short-term contracts thus leaving these professionals in a very

precarious position (Public Sector People Managers' Association 2013). The professionals are extremely sensitive to the problems associated with transfers as '*it could well be that someone is TUPEd out of our company because we have lost the contract and… we could win the contract back and they will be TUPEd back in again*' (M2 Software Engineer GD).

Aside from the insecurity arising from switching firms, the change of employer can result in a dramatic change of location: '*There was one case recently where the change of location was to India*' (M4 Systems Designer GD). This may be an extreme case, but it is indicative of the types of pressures and choices ICT professionals have to deal with on a regular basis when projects are up for renegotiation or are taken over by a different company. It is also an example of the complete control their employer has over these professionals. The professionals working on assignment contracts are often required to travel, sometimes quite considerable distances and often for a long time. One participant recalled a colleague who lived locally but '*was sent to South Wales for two years, came back for a short while and then was sent overseas*' (M1 Project Manager GD). On occasion it is possible to work remotely, as in the case of server support, but it is common for the client to demand the ICT professional be on-site even if she thinks her continual presence is not required. As one participant put it, '*this often happens because the customer… demands we work on site rather than remotely*' (M2 Software Engineer).

Mention has already been made above about how the change in an employer arising from contract tendering can have travel implications. The need to travel has obvious ramifications far beyond the immediate work context and in talking about his work a participant said he was '*going through all the kinds of things that we have talked about, the stress, the pressure and working away from home which is crap*' (M6 Network Engineer GD). There are adverse impacts for an ICT professional who does not want to work away from home because of a range of commitments, because she is perceived negatively by those seeking to put a team together for a project. Project managers for external assignments '*do not want people who do not want to travel*' (F2 Quality Assurance GD).

4.7 Relationships with Professionals Working for Other Companies

The following quote indicates how the constant shift in the ownership of the contract to deliver a system has a stressful impact on the way professionals relate to others from other companies:

> If our company takes over the contract, we say to the people working for the other company who are now working for us, ok, this is our process.

We then try to hand something over to those working in the other com-
pany. They say, that doesn't look right, that is not the way we do things
and you will have to do it again or whatever and there is all that frustra-
tion. What happens is that you start to get frustrated with someone else
who is trying to follow a process in their job and you are trying to follow
a process in your job and then friction and conflict happens and then
someone has to come along and bash heads together and work out a
common process (M6 Network Engineer GD).

This results in adverse impacts on the interpersonal relations between ICT
professionals: '… *each group has its own interests and not necessarily working
to the customer's benefit. You can… get a situation where there is a main com-
petitor and our company is a sub-contractor*' (M6 Network Engineer GD). '*So
you also get the blame game where each other says that was the other's fault*'
(M1 Project Manager GD). Another participants adds: '*This becomes political…
you are always worried that if you are talking to someone you are going to get
it in the neck for having caused a problem with the partner, supplier, customer
or whoever*' (M4 Systems Designer GD). This can have quite immediate and
significant consequences and one participant describes an incident where he
'*was working at a client and because of a slight misunderstanding in our work,
the primary contractor said I don't want this gentleman on site anymore. Within
a week I was gone*' (M1 Project Manager GD). This experience fosters a sense
of fear that arises '*because the blame game is absolutely central to these relation-
ships*' (M4 Systems Designer GD). '*That adds to the stress in that you can't even
sneeze the wrong way for fear of being let go of a particular piece of work*' (M1
Project Manager).

4.8 Re-engineering the Work Process

The intense competition and the concomitant continual churn of project
contracts and technologies have led the main ICT companies to re-engineer
working methods. Exploring these developments is helpful since they greatly
influence the work experience of these professionals and provides insights into
the management practices of medium- to large-scale ICT companies. A recent
trend within the IT sector is to look towards manufacturing for configuring the
workspace to mirror that of a production line. As one of the participants relates
that '*several people will be doing different things at the same time on the same
work. There are dependencies within them and that fits the production line anal-
ogy… things taken from manufacturing like lean and just-in-time*' (M4 Systems
Designer email exchange). This is an interesting comment because it implies
the IT sector, while being perceived as a cutting-edge industry concerning
product, was also seen as an industry lagging behind other sectors in terms
of its work process engineering. Hence the need for organisations to apply

more up-to-date production line techniques to improve performance and to embrace notions of standardisation and commoditisation. Since much of the work undertaken in this sector uses networks, it is valid to describe this process as a networked production line.

Events, such as the annual European Lean IT Summits, are evidence of the strength of these developments which increasingly limit the possibilities for the professional working in this environment to develop, let alone follow, a preferred work process even if that was deemed, by ICT professionals, to be more efficient and more suitable to an individual client's needs. The process of de-skilling and the expansion of bolt-on components usable in multiple conditions, creates a demand for fewer, more highly trained professionals to push through these changes. There is evidence to support the view that in the short-to medium-term future, the sector is likely to experience the development of a high number of relatively low-grade deliverers of commoditised, standardised components developed and managed by a much smaller, but still substantial, number of innovators and highly skilled managers. This process is more than just the development of technique. It is an example of processes involved with the transformation of working practices where it is impossible to roll-back changes. Having looked at several issues arising from the way work is organised, the discussion will now shift to consider how the work is managed.

4.9 The Management

Work processes are mediated through management structures. In this particular company, the role of the resource manager is critical within the process of assignment working and they '*control what is on the list of assignments and they make sure people get assigned to them… they also put pressure on people … and put forward people for assignments that they (the professionals) have not even been told about sometimes*' (F1 Asset Manager GD). All the participants concurred with the comment that '*The reality is that the assignment manager is responsible for making sure the job gets done and couldn't give a monkeys' about the people working for them*' (M4 Systems Designer GD). This method of allocating resources allied to the pressure to get the job done, impacts on the choices made by assignment managers.

> There are managers… who have a tendency not to want people in their organisation that have things like childcare or any caring responsibilities or any health problems or part-time hours because this causes restrictions on what kind of work they can do. They do not want people who don't want to travel or who say they want to do certain types of work (F2 Operational Acceptance GD).

This work process requires a complex and resource-consuming internal manager structure involving line managers, resource managers, project managers, information architects, delivery managers and an accounts team, reflecting several characteristics of this type of organisation. The array of managers directly influences the work of the ICT professional. *'I have at least three managers. One is a line manager, one is the assignment manager, and we also have a so-called career manager'* (M5 IT support GD). This view is supported by other participants who say, *'in the service desk we have… three managers at three different levels taking part in how we are managed, how we are appraised and monitoring what we do. We are micro-managed'* (F2 Operational Acceptance GD). One participant adds:

> that will be different for different jobs as well… people who are told by their immediate line managers and then you have project managers… you may have the architect who will be asked to do things by the project manager, who may also be asked to do things by the delivery manager or customer or account team (F1 Asset Manager GD).

Not all the participants were critical of their immediate managers: *'I get on Ok with my managers, and I find my work rewarding enough but I am aware that managers are definitely a mixed bag'* (M6 Network Engineer GD). His next comment was the sting in the tail: *'My personal experience is good, but I know there are just some **thugs** out there.'* As one comment illustrates, top management piles pressure on middle managers:*'Well, people's line managers get tasked with making sure people are utilised. So they get battered with a big stick if people are not doing stuff'* (F1 Asset Manager GD).

This multi-management environment makes it difficult to directly control employees and creates numerous contradictory relations, such as the demands from different managers with different responsibilities as well as their relations with the IT professionals they manage. Attempts to resolve these contradictions result in the imposition of an internal market where employees who do not get assigned a project, *'get put on what is called the bench…you don't get pay rises, bonuses; you can get picked for redundancy… they are using more of an internal market rather than a direct management mechanism to control staff'* (M4 Systems Designer GD). So while, in this company, benching does not negatively impact on salary, it can reduce opportunities for bonus payments. The notion of the 'bench' is one that is familiar within the ICT sector.[1] *'Being on the bench is not unique to our company. All the major IT firms do it… it does keep costs down because it is cheaper than having to hire contractors all the time. It is also a ready resource pool… '* (M1 Project Manager). Not all the participants had a negative view of the bench: *'The company does need a proportion of people on the bench for flexibility… It is a sensible business decision to have a number of people on the bench'* (M3 Project Manager). This was a minority view among

participants. Benching also appears to be a method the company uses to avoid significant redundancy payments. *'Being put on the bench can happen to people who have been with the company a long time and who would get a lot of money if they were made redundant… (and) to people who are close to retirement'* (F2 Operational Acceptance).

Benching adversely impacts on how professionals feel about each other and themselves. *'We have had people stay on the bench for a year… quite often it creates stress because people are forced to come into work and there is nothing to do. It is humiliating and degrading; their skills are deteriorating. It is horrible'* (M5 IT support GD). The bench system can provoke contradictory relationships between people. As one participant puts it:

> Sometimes I know when there have been periods where there have been a lot of people on the bench as they call it and so it causes a bit of fear because people can see there are lots of people on the bench and they think obviously things are not good. On the other hand, you can get some people who are quite stressed because they are on an assignment and who are working quite hard and then they see people sitting around with nothing to do and get pissed off with them, even though it is not their fault that they don't have any work to do (F2 Operational Acceptance GD).

While benching is generally thought to be a negative state, one participant hinted it could provide a positive environment. *'People… should get to do the things that they don't do when they are on assignments… training in quite a few of the areas such as software development that could be done online'* (F1 Asset Manager GD). Benching manifests several characteristics of alienation, particularly self-estrangement and estrangement from others. The 'bench' does not exist physically but is a concrete abstraction that has a powerful practical impact on the work experience of ICT practitioners.

When asked about how they felt about their jobs, one replied *'We love them'*. (There was raucous laughter here from everybody in the group.) She continued:

> I am only joking. I think working life is very stressful and people are being political within TUPE situations when you have lots of different contractors. Things can be very political even when you are working internally. It's like, for quite a few years it feels like you always have to cover your arse. So you always put everything in an email. You have to keep records of everything you have said and who you said it to even if you have been on the phone with them. You also sort of have to think politically even if you don't want to do that. Also that can be very hard. To think about what is in it for you, and other people, what is their agenda, and try and work out what might happen in a certain situation.

So rather than just doing the work, you have all this other stuff to think about (F2 Operational Acceptance GD).

However, like the technology they employ, management practices within ICT firms are subject to continuous change and evolution. There is evidence to show that IT firms are attempting to minimise the use of the bench and to replace it by the practice of drawing upon just-in-time techniques to employ ICT professionals on short-term contracts, so evident in body shopping: contract employees are as efficient in terms of deployment, cut costs, enable firms to pick professionals with specific project skills, and help companies to avoid mass layoffs and subsequent 'protests' (Sushma 2017).

4.10 Theorising the Alienated Condition of the ICT Professional

How far does Marx's approach to alienation help theorise the experience of the ICT professionals who participated in this setting? The evidence concerning the control over outcomes of work indicates that these professionals have no choice over how their skills and competencies are used in terms of the products they make. Furthermore, the nature of these products means that none of them can satisfy her own immediate or long-term needs. After all, how many, if any, ICT professionals have need of a medium-to-large scale information system outside of work?

The software and hardware as well as the systems designed and implemented by these professionals have all been created by them but for the other, the employer, to use to deliver a service to an external client and as a consequence the impact of this on the professional takes on five dimensions. First, the scope of the project already has been clearly defined and therefore limited by the client. Consequently strict parameters have been prescribed before any work commences both in terms of product and, increasingly, how those outcomes are constructed. Secondly, once the product has been made, its use is owned and controlled by the employer. Even if, in the highly unlikely event, the professional did want to use the system s/he helped to create, it has now become the private property of the employer. In addition, the ICT professional has no control over how the outcomes of his/her work are used, who uses them and if they have any eventual positive or adverse consequences for society.

Thirdly, having to work using standardised units to generate IT systems, means the ICT professional actively constructs processes that undermine her own skills and professionalism. Given these circumstances, each time the professional successfully completes a task, it is but one more step towards the deterioration of her own worth. A further outcome of this demand is that the professional, indeed the profession as a whole, has no control over the

way in which the industry is changing with the rapid emergence of commodity skills such as basic programming, routine software maintenance and testing, and elementary business processes.

Finally, it is the employer and the customer organisation who benefit from the work of the ICT professional and while the professional has no control over them, they have micro-managed control over her/him. It is an unequal relationship. This appears to confirm that the first part of the argument advanced by Marx has significance in helping to both form an approach to research and in providing a theoretical framework with which to analysis results.

But what of the work process? The nature of the ICT sector means that ICT professionals wait for work to be commissioned externally or internally. Within this particular company, work is distributed and, despite a formal process offering choice, the professionals have little say about the work they do; in some instances, they can be deliberately excluded from work because of personal circumstances such as care responsibilities. The internal division of labour means the professionals have to be asked to work on projects and then can be pressurised into taking work they would rather avoid. When work is not available, they are subject to enforced idleness through the bench system, which can have detrimental effects on self-worth, skill level, and on how they are seen by their colleagues.

Once work has been allocated, the professionals are required to complete their tasks by adhering to a strict set of given methodologies or templates. They are also expected to employ a range of standardised and commoditised products to achieve the objectives of a project. Thus, internal imperatives mean they have minimal control over how work is dispersed and implemented in that none of the participants mentioned any informal strategies to resist the adverse conditions within which they work. This was a significant absence from both the group discussion and the individual interviews. There are two possible explanations for this. The first is that such possibilities just do not exist or that second, even within a safe and relaxed discussion where anonymity is guaranteed, they still could not or did not want to articulate their views on this aspect of their working lives. Either way, it is indicative of the oppressive environment within which these professionals work.

The onset of the economic crisis provided a further impetus for a wider and deeper application of short-term project contracts to be awarded to IT companies. Thus, ICT professionals can be transferred back and forth across employers with all the insecurity this can bring. They can also be faced with having to cope with a different set of working practices and with a change of employer can come a change of work location. In addition, there is the development of short-term employment contracts within the profession and although these are not always used by medium- to large-scale IT companies, it is not unusual to find a variety of non-standard employment methods such as the use of agency temps (usually in low-paid, lower skill jobs), the use of contractors (usually in

higher-paid, specialist skill jobs), and the use of zero-hours contracts[2] through a separate subsidiary. When in work, they can find themselves benched. In effect, they become an internalised reserve army of labour exhibiting a number of characteristics normally associated with the notion of precarious employment. These developments create competition between professionals, insecurity, frustration, friction and conflict, and encourage a blame culture. All of these have an adverse effect on interpersonal relationships.

To this picture is added the complexities arising from professionals being accountable to multiple managers. Here management imperatives are focused on attempting to resolve the contradictions arising from horizontal forms of accountability by implementing mechanisms such as benching. In addition, managers are perceived as being oriented on successful task completion with the wellbeing of staff a secondary priority as is highlighted by the attitude towards training for the professionals. A further aspect is the development of a blame culture demanding the continuous archiving of evidence to counter any adverse comment made by a manager.

For these ICT professionals, the work process, as with the products they produce, has been, and continues to be, developed to deny them immediate control and on a broader, more general sense – such as, for example, in the development of lean IT and the extensive use of commoditisation – facilitates the development of an industry over which they have no control and one which suppresses those very aspects of their work that could foster the notion of professionalism. The commodities they create and the way they create them rebound back to alienate the creators from their own creative activity. This is the antithesis of the commonly accepted notion of what it is to be a professional. The processes described here dovetail neatly into the discussion Marx has about the nature of alienation. ICT professionals, by both creating and recreating these products and processes, are building the components of present and future states of their own alienation. And yet this happens in a context that *appears* perfectly natural and seemingly unstoppable.

At the same time, the trends inherent in the development of the industry and accelerated by the economic crisis of 2008, offer no possibility to arrest let alone reverse this process. ICT workers are now locked into a seemingly unstoppable process of alienation employed in the industry. Given the above, the second element of the Marx's notion of alienation is also particularly relevant to the work process experienced by the ICT workers employed by this company.

Marx's formulation of alienation is extremely pertinent for the ICT professionals in this setting. However, would it be applicable in other situations that could be possibly described as more benign? An example of one such environment could be those ICT professionals working in ICT start-ups such as Coursera, a company concerned with delivering Massive Open Online Courses (MOOCs). At the start of the section outlining Marx's theory of alienation reference was made to labour being a commodity, and it is from this that Marx builds his

view of alienation. This includes competition. Although time has not allowed a full exploration of the staff in Coursera, a review of comments made by interviewees, such as software engineers and communications managers, during the interview process appear to demonstrate that both the interview process and starting salaries are highly competitive between profit-making firms such as Coursera (Glassdoor 2014). Here decisions are being made by the employer about the value of the ICT professionals' labour. As competition is evident during the process of recruitment and since firms like Coursera operate within a competitive environment, it is quite likely that the alienated experience of the ICT workers who participated in the study would resonate with those employed by firms like Coursera. There is a further issue connected with MOOCs for ICT professionals in that these workers are encouraged to undertake professional development using MOOCs but to do so in their own time and to pay their own fees thus reducing costs associated with in-house training and development.

A question could be also be asked about the relevance of Marx's theory of alienation to other computer professionals such video game programmers. However, even in this industry, which was once seen as having totally committed employees who saw their work as a hobby, the alienating relations within the industry, manifested through the pressures and stresses of video game development, has led to the partial unionisation of the industry and to walkouts (Farokhmanesh 2019).

4.11 Issues of Validation, Reliability, Bias and Ethics

Assessing the reliability and validation of the data gathered for this setting was undertaken in two ways. The first by sending an initial copy of this chapter to all the participants for comment: limited comments and clarifications were received. A draft of this chapter was circulated to unionised ICT professionals as a briefing document thus indicating the participants confidence in the research. Reliability and validation was also obtained by referring back to secondary research to confirm some of the findings, such as those associated with the introduction of lean management techniques, the prevalence of benching and TUPED contracts, thereby strengthening the view that the experiences of the ICT professionals who participated in this setting resonated with those of other ICT professionals in similar circumstances.

Using a fully-fledged PAR method was not an option in this setting simply because it was not possible to create and follow through with a project involving the ICT professionals since this would have required an adequately funded time-limited project staffed with seconded computer experts. Nonetheless, successful attempts were made to incorporate the sentiments that inform PAR into this aspect of the research and to try and give as much control as possible to the participants.

4.12 Conclusion

This chapter explored the control ICT professionals have over both the products they make and the processes used to create those products. Extended conversations with the participants allowed them to develop their own narrative and has placed this narrative within the wider theoretical discourse concerned with Marx's theory of alienation finding that the experiences described by the participants can be understood and explained within that paradigm. There are two further points worthy of note. Given the time and space constraints it is evident that ICT workers can articulate their profound reflections on how they see their working environment and their role within that environment. Their contributions during both the group and individual sessions indicated they had a firm grasp of the genesis and nature of the problems they confront. Secondly, this chapter has shown that the power structures within which the ICT professionals work shapes the products they produce, further emphasising that technology and its development are not neutral but are directly concerned with advancing the interests of capital.

CHAPTER 5

Researching ICT: The Scholars' Alienated Experience

Somewhere along the line I slipped off track
I'm caught movin' one step up and two steps back
Bruce Springsteen: 'One Step Up'

5.1 Introduction

This chapter examines the experience of academics researching the ethical and societal aspects of ICT. The decision to concentrate on scholars researching this subject was linked to the desire to see how effective Marx's theory of alienation would be when applied to what could be described as a relatively benign experience compared to those solely focused on university teaching since it is generally assumed that researchers have more autonomy over their work. The chapter opens by describing the conflictual and constantly changing conditions that shape the scholars' working environment with its attendant stresses and contradictory pressures. Sarah Mann has used alienation theory to explore problems linked to surface/strategic/deep approaches to learning by focusing on the alienated experiences of learning. This chapter uses Mann's application of Marx's theory of alienation to students' lack of engagement to bring the educator into focus in this process.

Alienation is a lived experienced with real, practical relations, seemingly between the things a person encounters but in reality it is a relation between people. Therefore, it is going to be expressed, in the first instance, in different forms given that it is mediated through the prism of different experiences. This notion of mediation is critical in comprehending the different forms in which

alienation is manifested in different contexts and flags up three potential pitfalls when considering these issues.

The first is that an investigation following a compare-and-contrast approach can lead to a shallow analysis since it will be primarily concerned with comparing the outward appearances of alienation as expressed in two or more contexts, rather than exploring the underlying impulses creating alienation within each specific context to see if there are deeper, concealed commonalities. The second potential problem arises from simply expecting to find the same manifestations of alienation across different contexts. This can lead to the third problem which lies in the possibility of collapsing the discussion to cover degrees or levels of intensity of alienation, for example by considering if ICT professionals are more alienated than scholars. Marx, by talking about alienation having a practical expression, is perhaps anticipating these problems and seeking to avoid a view which includes an expectation that the form alienation is expressed in one context will necessarily mirror that found in another. Coupling alienation to mediation allows for the application of the general theoretical principle but recognises there may be significant differences in expressions of alienation. As has been argued in the previous chapter, alienation is clearly evident in their activity because of the way work is organised. For academics, particularly those who are primarily research focused, the experience is much more nuanced, and the discussion will open by looking at the general conditions within which scholars undertake their labours.

5.2 The Academic Environment

There have been profound changes within higher education (HE) by forces which continue to deepen and widen adverse academic conditions. The HE landscape internationally has been shaped by practices such as standardisation and benchmarking, ranking league tables (where universities compete on both national and international levels), audit technologies, research assessment exercises, and increased class sizes, all affecting the way scholars work. Working under the auspices of the UK Office for Students, the Quality Assurance Agency (QAA) is responsible for conducting random reviews of higher education providers in England to check quality and it has published subject benchmarks that describe the nature of study and the academic standards expected of graduates in specific subject areas. They show what graduates might reasonably be expected to know, do and understand at the end of their studies (Quality Assurance Agency 2018). Adherence to these benchmarks is enforced through the publication of QAA Reports for HE institutes following a random inspection. The QAA is a member of international quality assurance agencies such as the European Association for Quality Assurance in HE (ENQA) and the International Network for Quality Assurance Agencies in HE (INQAAHE). These institutions are part of an all-embracing international

infrastructure that, in the name of international competition, seeks to shoe-horn all institutes of HE into the same relatively narrow standardised prescriptive confine that has embraced the commodification of HE (Saunders and Blanco Ramirez 2017).

Other contradictory pressures arising from research imperatives, which undermine traditional approaches to scholarly activity, are derived from the need to reinforce competitiveness generally as well as focus on income generation. One such pressure is the determination by university managers to prise research from teaching thus buttressing the division of scholarly labour. As Imrie argues, the trend is towards the privatisation of research and its co-option and capture by specialist, partisan organisations (Imrie 2009: 86). Neoliberalism, a reform process that encourages global competition in all sectors (Giroux 2019; Hall 2018a), is generally recognised as the overarching impulse driving these trends. The neoliberal agenda seeks to mould all institutions of HE using a die cast by a philosophy that champions the role of the private sector in political and economic affairs, holding that competition brings about efficiency (Adamson 2013: 301). In Europe, the Bologna process is the driving force behind much of this change (Teelken 2012). The adverse impact of neoliberalism on HE is well researched indicating that de-skilling and casualisation are significant consequences of the process (Callinicos 2006, Fredman and Doughney 2012). Bamberger et al. (2019) discuss the way in which seemingly progressive ideas, when linked to the neoliberal drive into HE, provide cover for the normalisation of educational inequalities.

It also impacts on academics' working conditions. In the United States, non-tenure-track positions of all types now account for over 70% of all instructional staff appointments in higher education with part-time (adjunct) college lecturers comprising of 50% of academics. This rapid expansion of non-tenured appointments has resulted in an increasing number of lecturers working in precarious employment situation earning low pay and without benefits. Kingkade (2017) estimates that part-timers typically earn between $20,000 and $25,000 annually with pay determined by the level and numbers of courses taught with variation between institutions. In Britain, the university lecturers' union, UCU, has revealed that 54% of UK academic staff are employed on insecure contracts. Employed by the hour, on fixed-term contracts, or employed as post-graduate student teaching assistants, there is little by the way of career progression (Wånggren 2018). However, 54% is an average figure, since for some institutions and grades the number is far higher. At the University of Southampton 80% of Level 4 research staff are on Fixed Term Contracts (FTCs), at Oxford University 55.3% of all academic staff above 'Grade 6'– an Oxford job classification which includes all those who can act as supervisors – held a fixed-term contract in July 2017, compared to 54.6% in 2016 (Cherry 2018).

A further result is 'the rise of managerialism and a diminishing influence of the academic voice' (Courtney 2013:41), where targets, contribution towards competitive edge, and performance management systems together with obtaining

revenue from external sources such as funding bodies or providing training courses, determine the worth of an individual academic to her institution. The neoliberal agenda has seen the emergence of new forms of measuring academic activity categorised as quantification, standardisation and surveillance. Consequently, measures such as benchmarking related to student performance, critical success factors and key performance indicators become the management tools measuring the efficiency of the academic. While measuring university staff performance is not new, the intensification of competition between educational institutions both within and beyond national boundaries is driving managers in universities to develop, from their perspective, effective performance metrics that can hold scholars to account. Here the language is concerned with, *inter alia*, geometric averages that measure the ratio of output- and input-based indices target achievement, target interconnection, consequence management, and (fuzzy) Analytic Hierarchy Process performance measurement tools (APH) (Lee 2010) and value-added activities. Essentially what is being described here is a:

> management model that analyzes all organizations (universities, hospitals, railways) as if they all have the same formal structure and they consist of identical input/output processes, which can be quantified and controlled by management. In theory the manager's job is to make these processes as efficient as possible (Lorenze 2012: 611–612).

Another implication of the neoliberal agenda has been identified by Rikowski when he states that 'the current crisis of higher education appears to be facilitating the capitalisation process: it provides opportunities for the business takeover of higher education and the expansion of private higher education provisions' (Rikowski 2012). It is the policy of the UK Conservative government policy to open up HE to private companies and to include the right for students in private universities to have access to the student loan scheme (McGettigan 2014). The expansion of private universities has been, until recently, minimal in the United Kingdom, but they play an increasingly prominent role in global HE with a third, some 60 million, of HE students (Levy 2018) studying in private HE institutions. Only 10 countries do not have some form of private HE provision and even in France 19% of HE students attend private institutions (Bothwell 2018). This has consequences for the examination of and discussions concerning academic conditions since many of the recent texts in the critical tradition, influenced by the autonomist perspective, start from the need to arrest the erosion of existing HE public provision and to mobilise around the idea of the commons. However, in doing so they disregard the condition of scholars working in the newly created or existing private universities. For these scholars there is simply no commons, for them to defend.

There is a non-critical response to the neoliberal push which celebrates managerial and organisational changes outlined by the concept New Public

Management which universities hierarchies seek to implement. These cover the possible integration of Total Quality Management (TQM), Business Process Management (BPM) and Business Process Reengineering (BPR) and lean management practices, such as Lean Six Sigma, that have been applied in private enterprise and, increasingly, other public sector organisations (Maciąg 2019). This strong emphasis on managerial leadership in universities is allied to conversations about internationalisation and the need for academics to embrace an imaginative approach to the role of HE as well to commit to university brand images and marketing programmes (Hall and Weale 2019).

Managers see an important ideological role for academics on fixed-term contracts such as the incorporation of full-time non-tenured post-holders into processes focused on issues concerning governance. This process has been identified as a key element in overcoming the obstacles to neoliberal reforms within universities arising from the inertia or opposition of tenured post-holders (Armstrong 2016). Non-tenured positions make it easier for managers to control costs and employees, as well as creating a fifth column, unintentionally developed by non-tenured post holders, within academia itself to undermine the status quo. The relationship between non-tenured posts, management strategies and issues of governance is underresearched and deserves greater scrutiny.

Interventionist managerial processes are not accidental nor simply the wishful fabrications of human resource departments. They are the practical localised manifestations emanating, in the European context, from the Bologna process initiated in 1999, developed within the Lisbon agenda, which mirror the free-market, strong-state neoliberal perspective advocated by the Chicago School of economics and politicised by Reagan and Thatcher in the 1980s. These processes Europeanise, marketise and boost competition within HE under a seemingly benign progression of harmonisation across the EU. The result, however, is anything but harmonious (Brøgger 2019).

Yet, because these processes are mediated through specific contexts, not all academics have experienced the environment described above in the same way or at the same time. Thus, some European academics believe 'that efforts to care for academic creativity and pursuit of knowledge for its own sake are not endangered by the growing pressures' (Horle and Teichler 2013: 34). However, in the United Kingdom 'many academics consider themselves as losing the typical academic life due to managerial pressures' (Horle and Teichler 2013: 34). This is not surprising given that previously the neoliberal agenda had more purchase in the United Kingdom than in much of the rest of Europe. However, that picture is changing with HE in Europe increasingly morphing into its UK and US counterparts (Schmidt 2018). In terms of research, 'academics find themselves working not within groupings defined by their original discipline but in theme-based interdisciplinary groups whose organising rationale is to serve some external constituency' (Brennan 2007: 20). While ideology is the driver for changed priorities in HE, technology is the delivery mechanism.

Technologies such as virtual reality offer possibilities for transforming the educational experience, but managers talk of digitally enabled institutions where ICT forms the nervous system, carrying the message about redesigning HE and undermining professional autonomy through non-inclusive decision-making processes, increased workloads, and expanding contradictory teaching and research roles.

Academics are also judged by their engagement with research as gauged by grant approvals, publications, conference papers, and participation in the publishing process via journal editorships, membership of editorial boards and peer reviewing. For-profit academic publishing is a $25bn industry with profit margins reaching between 35–40% with the emergence of China as a major player in the area (Johnson et al. 2018). Academic publishing is an increasingly competitive environment with the concentration of academic publishing in a limited number of publishing houses (Hampe 2013). Consequently, five major for-profit publishers (Elsevier, Springer, Wiley Blackwell, Taylor & Francis and Sage) own over half of the world's academic material (Jandrić and Hayes 2019) up from 20% in 1973 with an estimated three publishers, Elsevier, Springer and Wiley Blackwell, controlling 42% of all published articles. However, some of these publishing houses are themselves owned by larger multinational companies with, for example, Elsevier being a profitable part of the RELX group which also controls the Scopus, ScienceDirect, SciVal and ClinicalKey academic databases. The numbers are staggering. Johnson et al. (2018: 25) estimate that there were about '33,100 active scholarly peer-reviewed English-language journals in 2018, collectively publishing some 3 million articles a year'. According to RELX's own figures, during 2018 there were:

> over 2m articles submitted and 1bn articles consumed by researchers. In 2019, Elsevier published over 49,000 gold open access articles, a double-digit growth on the previous year, making it one of the largest open access publishers in the world. Elsevier's portfolio of 2,500 journals is managed by more than 22,000 editors (RELX 2019).

This concentration and centralisation of academic publishing and databases has intensified the competition, directly impacting on how research is undertaken and disseminated in terms of form and content (Peekhaus 2012) adversely impacting on the viability of niche journals, often linked to professional associations and providing an important outlet for quite specific areas of research. This has resulted in a funding decrease and problems of ranking as academics and librarians are coerced into subscribing to the journals owned by the big publishing houses (Rokach 2012).

There has been an increase in the number of online open access journals which account for between 7 and 11% of academic publishing (Kaiser 2010). While this appears to be a positive development, it does raise questions

concerning the business model with the possibility of authors having to carry the cost of publication which can range from $500 to $3000 per paper (Kaiser 2010). A further problem is associated with peer review and 'according to the Directory of Open Access Journals, which tracks some 5000 scholarly and scientific journals, only two-thirds are peer-reviewed' (McKetin 2013: 1).

The peer review process is also problematic. Leaving aside issues such as quality, Eve notes that peer reviewing often acted as a filter to reduce the number of articles appearing in journals given the limitations of space (Eve 2014: 140). Further, the process of peer reviewing is often faulty given the nature of the subject areas and various sub-sets contained within them, and the targeted audiences for academic journals. The act of peer reviewing has stimulated the development of a problematic self-censoring mechanism by encouraging submissions that fit the priorities and perspectives of a given journal, and which are not always 'peer reviewed'. Goodfellow (2014) argues that there are problems associated with digital scholarship and openness and that:

> any assumption that as academic scholarship becomes more digital it should naturally become more open ignores tensions that reside not only within the scholarly community in its response to digitality, but also between the ideals of academic scholarship and the idealisation of a democratising and inherently educational open internet (Goodfellow 2014:).

Even getting published does not necessarily mean access to funding for research. Studies looking into the allocation of health research funding in both the US and the UK noted that while here may be some differences between the two experiences, 'the picture seems to be consistent in both cases: many of the researchers who publish the most influential papers in health research may be left out of public and charity funding' (Stavropoulou, Somai and Ioannidis 2019). They further add that most of the funding available for health research from the three major funding bodies was awarded to serving board members of those bodies who do not figure as authors of the most cited, influential research papers. Stavropoulou, Somai and Ioannidis conclude their paper by saying decisions on who will receive a grant may be influenced by the 'money-follows-money' rather than 'money-follows-excellence' principle.

Prior to the 1980s, the scholar's experience was mediated through specific national and sectoral contexts. However, the neoliberal reshaping of the university sector plus the domination of academic publishing by an increasingly diminishing number of publishing houses has homogenised the conditions within which academics work. Difficulties in obtaining funding for research; the imperatives of funding bodies; the squeeze on time because of teaching or administrative commitments; the lack of institutional, human and technical support on top of the pressure to publish are the burdens with which

research-focused academics must cope (Kinman, 2019). Yet, as Halffman and Radder argue, for 'public professionals at universities, despite everything, an academic profession is still also a vocation' (Halffman and Radder 2015: 184) they see themselves, first and foremost, as researchers or experts in a 'disciplinary or professional field rather than teachers of their subject' (Macfarlane 2004: 8). Therefore, the evidence indicates key concepts which were 'traditionally firmly woven into the very fabric of knowledge production' (Kogan and Teichler 2007: 11) and which denote the academic professional, such as autonomy, academic freedom, linking research to teaching, the pursuit of knowledge through scholarship, and the freedom to publish without constraint and external pressure, have been eroded by the neoliberal steamroller. Scholars' aspirational view of themselves lags behind the underlying reality of their working conditions. This self-image clings to a romantic view of the scholar's position which is increasingly untenable and one sustained by what Gibbs (2019) calls a veil of self-deception about their roles and possibilities. The only certainty for the academic profession is increasing uncertainty.

The conditions in which lecturers work have encouraged researchers, such as Musselin (2007), to argue that:

> the current developments affecting academic (craft) activities tend to transform them into academic (industrial) work. This considerably reduces the differences between the members of the academic profession and traditional workers. In terms of control over the organisation of their time, the allocation of tasks and the specialisation of their activities, as well as in terms of staff and career management, the discrepancies between a wage-earner in a firm and a faculty member have decreased on the average (more for contingent staff than for the traditional tenured positions) (Musselin 2007: 183).

In one study of graduate teaching assistants in the UK, one participant said they are:

> acting a little bit like peacekeepers and a little bit like a machine factory, just to get everybody through. So especially with the labs. So I taught the same lab 21 times over three-week period, and it was a little bit like a factory turning out the same thing over and over and over again to students (Raaper 2018: 429).

This is the general environment within which scholars carry out their daily tasks and space has precluded from this discussion issues such as diversity, recruitment, career progression and research opportunity; the relationship between academic journal editors and publishers; the link between plagiarism and the pressure to publish; the increasing problem of published papers based on false

or reworked (and misrepresented) data, the growing divide in income between university bosses and scholars, and the relation between the managers and the managed. Another focus could be on the crisis developing in HE governance while at the same time appreciating the mediating factors that influence these problems on university governance.

5.3 Alienation Theory in Education

Mann (2001) uses Marx's theory of alienation to examine the student's alienated experience to seek an explanation for and a possible solution to the lack of active engagement by learners in HE. By recasting her approach to focus on the lecturer's perspective, it enables us to glimpse at the alienated condition of the academic. Mann writes of the difficulties associated with surface or strategic learning. The former is 'characterised by a focus on rote learning, memorisation and reproduction, a lack of reflection and a preoccupation with completing the task' (Mann 2001: 7). Strategic learning is driven by simply getting the task done and is determined by 'assessment requirement and lecturer expectations and a careful management of time and effort, with the aim of achieving high grades' (Mann 2001: 7). However, students can only employ such learning strategies within an overarching educative process designed and implemented by lecturers. Thus, the institution through the practical activity of the lecturer, encourages and delivers the constricted and task-driven activity of the student via a set of contradictory relations.

Mann locates alienation in specific concrete practical conditions and identifies six possible conditions where learners' alienation may arise. The first relates to the tendency for HE to focus on external needs, primarily the labour market where notions such as utility and transferable skills drive the teaching and research agendas. These imperatives are familiar to those working or studying in HE since they dominate curriculum design, subject choice, subject coverage, delivery and assessment modular teaching, research and so forth. This results in the student being estranged from the possibility of a meaningful personal purpose in engaging in HE. To emphasis this theme, Mann cites Barnett who comments, in words that could equally apply to those researching in HE:

> To reduce human action to a constellation of terms such as 'performance', 'competence', 'doing' and 'skill' is not just to resort to a hopelessly crude language with which to describe serious human endeavours. In the end, it is to obliterate the humanness in human action. It is to deprive human being of *human* being (Barnett 1994: 178).

The second and third alienating contexts Mann identifies are related first to the student entering a 'pre-existing discourse' determined and controlled by

entrenched, established roles and 'more powerful others' (Mann 2001: 10). Secondly, when the student encounters language, customs and systems alien to her, she is an outsider. Here Mann uses the metaphor of colonisation to illustrate the argument. These two pressures create a tension within the student between the creative urge to explore the world and the repression of this creativity arising from the need to conform to the demands of HE. As Mann argues:

> The demands of learning the language of rational, abstracting, academic discourse and processes may require the student to repress their being as non-rational, creative, unconscious and desiring selves, the very selves which they may need for engaging in learning (Mann 2001: 12).

These pressures led to Mann's fourth manifestation of alienation: the denial/repression of student creativity by the knowledgeable other. Compliance and acquiescence to the institution, lecturers and course demands dominate the student's existence. Consequently, the student is estranged from her 'own creativity and autonomous self as a learner' (Mann 2001: 13). Mann's fifth description of alienation draws heavily on Marx in that she likens the student's loss of ownership of the learning process to that of labour. In the context of HE, the product, e.g. the essay, report, exam paper or Phd thesis, becomes part of the system of exchange. Hence, the relations between the student and the institution are mediated through assessment outcomes, undertaken by the academic staff, thereby reenforcing the power relations. Students have no right to challenge academic judgements about the quality of their work. Rather than liberating the student and propelling her into greater discoveries about herself and the world in which she lives, the product of her work simply reinforces the powerlessness she feels and replaces the idea of study with achievement determined and judged by pre-set norms.

Mann refers to Marx's notion of species-being to argue that the student's drive to engage in creative study is undermined by the very learning process itself:

> From this perspective the learner's estrangement arises out of the unequal distribution of power within the teaching and learning relationship, and the ownership by lecturers or the institution of the means for, and the values given to, work produced through assessment (Mann 2001: 14).

This has profound implications for the scholar since the student also ceases to be a person and becomes a summation of her grades which are eventually incorporated, via key indicators and so forth, into the grades of other students. This leads to Mann's final expression of alienation where the process of assessment, apart from reinforcing hierarchical and unequal relationships as well as normalised judgements, determines what a student feels about what he has or

has not achieved. His worth is measured by his marks and his worth, as determined by the grade, is judged against those of other students.

Thus a 'good' grade reaffirms the student's worth to the institution, to his teachers, to her supervisors, to other students and to herself as well as to all those outside the education institution, such as parents, who have invested time, money and emotional energy in the student's outcome, as well as potential employers. The grade, which is itself the result of an academic judgement which cannot be challenged, cements the power relations within academia. As Mann notes, 'Such an experience, especially when it is linked to failure, can be argued to contribute significantly to a feeling of alienation, in the Marxist sense, from the product and process of one's work, from one's self and from others' (Mann 2001: 15). Further, a good or bad grade reflects on the academic by enhancing or undermining her reputation with subsequent impacts on her department and so forth. These sentiments can also be applied to the scholar with, for example, the publication of an article in a prestigious journal.

From the perspective of the student, it is the needs of the other that determine education programmes so, for example, the organisational structures and goals set for students, at all levels, in the EU are geared towards enabling students to become digitally literate so as to provide a workforce of appropriate skill levels to meet the labour needs of the knowledge economy. This environment has significant ramifications for academics for several reasons. The first is the impact on scholars from priorities driven by corporate goals. 'As universities and departments operate according to corporate plans, so the institution takes priority over individual creativity and collegiality gives way to corporate-bureaucratic line-organization' (Thorpe 2009: 110). Here Thorpe cites the specific instance of the UK Research Assessment Exercise driving the research agenda and determining the quality of research output. The second is that if the student is alienated the question follows: from whom is she alienated? Part of the answer must be her lecturers and those who are responsible for running the institution. Thus, implicit in Mann's thesis is the creation and continuation of a whole series of alienated relations and shifting the angle of vision in her argument reveals the role of the scholar in this process.

5.4 The Scholars' Perspective

These conditions have an impact on how academics feel about their roles and the strategies they use to work in an environment riven with competition, contradiction and alienated relations with students. In looking at how academics react to managerialism, Teelken (2012) found that academics exhibited 'a clear dislike of the growing administration, the increasing competition for research funding, the obligation to fill in time-consuming grant applications and the heavier workload. Examples of frustration and stress are omnipresent' (Teelken 2012: 287). An extensive study of Australian academics found that on average

they tended to work 55 hours a week, 35% of which were worked at home. Not all this work was directly connected to the university since many 'successful' academics are also required to undertake outside consultancies (Goodman-Delahunty and Walker 2010). A more recent study of workloads at a research-intensive American university found that academics work up to 60 hours a week (Misra et al. 2012). The problem of academics pressured into working long hours does not appear to be a nation-specific characteristic as evidenced by research from Iceland (Heijstra and Rafnsdóttir 2010).

The increased demands placed on academics are mediated through and amplified by the tools they use to do their job. The impact of ICT on academics has been a topic of extensive research, covering themes such as increasing email traffic (Jerejian et al. 2013), surveillance (Lorenz 2012), ethical concerns relating to plagiarism (Byrne and Trushell 2013), impact (or lack of) on teaching practice (Chetty 2013), and work-life balance. Research in Iceland found that ICT has a serious impact on academics' ability to manage work and home life because of irregular sleeping patterns, very early morning starts to check email, and the blurring of the distinction between work and self-time (Heijstra and Rafnsdóttir 2010). In many of the studies adopting a qualitative approach, such as the one in Iceland, the female participants had concerns about life as an academic.

This working environment presents several problems for relations in the sector. Cummings and Finkelstein note that academics express 'a sharp decline in their loyalty to their employing institutions' (Cummings and Finkelstein 2012: 131). Furthermore, the evidence indicates that a reconfiguration of relations is taking place within and between universities with a divergence of interests emerging between those individuals or institutions that have access to research funding and those who do not. An analysis of the impact the peer review process has on competition for research funds found that both within and between universities the process appeared to strengthen research elites and university managers (Musselin 2013). In discussing the relationship between academics, one researcher goes so far as to talk about 'academic tribes' and while this may be overstating the case, it does evoke an image of desperate academic groups in conflict over dwindling resources (Jones 2013: 76).

However, the process here is contradictory since, while being in competition with each other, institutions of HE and researchers seek collaborative projects to frame successful grant applications, especially from awarding bodies like the EU. Researchers who are working for quasi-public bodies that depend on funding from both private and public sources are also in this contradictory position. Many of these institutions regularly participate, alongside academics from universities, in project initiatives from organisations such as the EU running, for example, under the auspices of its 7th Framework Programme. In short, academics work in an environment subject to powerful external shocks adversely impacting on their working conditions as well as forcing through a reconfiguration of relationships with academia.

5.5. The Participants

From the 80 people approached for interview, selected for this setting from editorial boards of and contributors to journals associated with the ethical and societal implications of digital technologies, 20 agreed to participate in the study with eventually 15 participants being interviewed. It was not possible to interview the others because of busy schedules, diary clashes or problems relating to time zones. The 15 participants, seven of whom were women, were spread across four continents: the Americas, Europe, Africa and Australasia. Within the group, five could be described as having a made a considerable contribution in researching and teaching the field; four could be described as developing a significant reputation the subject in terms of research and publications; and six could be described as coming relatively recently to research in the area and having made recent additions to discussions in the field. In terms of interest, six were directly concerned with ethics and ICT while the others research areas such as ICT for development (ICT4D), ICT and socially organised work practices, and more broadly, the impact ICT has on society. All the participants have published research and can be described as professionals who have a strong commitment to their work and subject area. Consequently, they were a pertinent group to investigate to what degree factors such as control of product and process, arising from the labour process, play in an assessment of alienation in this setting.

A point of interest to note here is the route by which the different participants came to be interested in research on ICT and ethics and/or the societal impact of the technology. Although the participants in this phase of the research did not share a common working institution and it was not possible to arrange a collective discussion of the issues explored, a number were computer scientists who had come to the area because of concerns about the relationship between technology, society and the computer scientist. The interview group also included academics with a philosophical background who had become interested in the relationship between philosophy and ICT.

Some researchers worked for organisations researching ethics and ICT as part of a requirement for European projects. Others were undertaking research as part of a wider appreciation of the issues and as part of their postgraduate studies. Some participants were linked to networks that have a close, shared, some might say, cherished view of the relationship between ICT and society. Thus, for example, Ethicomp describes itself as 'an interdisciplinary community dedicated to exploring issues and seeking ways forward' while working in a 'supportive and inclusive network' (Inseit 2017). Similarly, the journal *Ethics and Information Technology* outlines its scope as being a peer-reviewed journal dedicated to advancing the dialogue between moral philosophy and the field of ICT. This group of participants shared an intellectual coherence derived from their concerns about the impact of digital technology.

The element of the research involving the academics sought to approach the subject matter of the research from an angle slightly different to that of the other two settings for two reasons. The overarching area of concern for these scholars in the study is the societal implications of ICT. So how they progress their work and how that work is subsequently publicised are of direct relevance to any discussion about ICT, society and alienation since they are indicative of those investigating these issues. In the following section, F and M denote female and male respectively. E stands for an experienced scholar and R indicates a scholar relatively new into the area. US denotes United States, EU means European Union, AUS indicates Australia and SA means South Africa. Thus, FE SA would indicate the participant is an experienced female scholar working in South Africa. Where there is more than one person from a given country with the same profile, a number is used to differentiate between them; hence ME2 US indicates male experienced researcher number two from the United States.

5.6 Commitment to the Subject

Scholarly interest in researching the ethical and societal implications of ICT has a distinguished pedigree and the intention is not to rehearse the history of the subject since this has been well covered elsewhere (Bynum and Rogerson 2003). Rather, the purpose is to explore the reason why the interviewees in this setting were motivated to address a myriad of concerns over the way the technology has been developed and used. Initially, research into the ethical and societal implication of ICT was limited to a relatively small number of ICT professionals and philosophers but this activity has been given a strong impetus flowing from the expansion, development and subsequent use of ICT. One of the initial concerns of computer scientists stemmed from the problems associated with the US Strategic Defense Initiative of the mid-1980s. As one interviewee said, in talking about the information technology required to support that system, *'what me and other computer scientists in the US who did not see great research dollars lying on the table said… you don't know what you are talking about* [using computer in the programme] *since we have enough trouble just printing bills'* (ME2 US).

These concerns prompted an examination of the technology from a philosophical perspective which resulted in an ongoing conversation between practitioners and philosophers, later joined by social scientists – an engagement that developed as the technology changed and expanded. As the technology evolved so did the nature of the research since each technical development posed new and sharper challenges for those engaged in research thus pulling an ever-growing circle of academics into its fold. The emergence of various national computer associations seeking to encourage IT professionals to connect with the ethical and societal implications of their work provided a further

impulse. From the tsunami of revelations concerning PRISM, the US National Security Agency's data-gathering operation and the implications for the integrity and security of personal data in 2013 (Kuner et al. 2013), through to the Cambridge Analytica scandal on to the issues associated with the Chinese tech giant Huawei and Big Data, there are no end of themes to explore from an ethical and societal perspective.

Academics keen to adapt, develop and employ the technology in a socially progressive way are also drawn to the subject area. One participant commented, *'I am interested because not much work has been done on ethics and ICT for rural development… I want to know why rural ICT projects often fail'* (FR SA). Another referred to the help ICT could offer in the reduction of poverty. One participant commented that her concern was focused on governance issues associated with the way *'IT is planned, built and managed'* (FE AU). A further spur to the interest in research in the area has been the availability of research grants awarded by various funding bodies, both public and private, and the development of corporate social responsibility programmes. In the latter instance, ICT companies are now required by law in some countries, such as those in the EU, to show a commitment to business ethics and compliance policies which results in the development of ethical training programmes. While the motivation for companies adopting these processes can be located in the business case linked to the benefits of compliance and the need to avoid costly fines arising from instances of bribery and corruption, it has added further impetus to research in the field (Jones 2013).

Whatever the specific motivation or particular direction of interest, all the participant academics, including some who have been engaged in this area for many years, indicated a strong personal commitment to their work. They perceive their work to be part of a wider discourse directed at linking ethical issues to digital technologies. One interviewee put it this way: *'Computer ethics has been excellent for me professionally and personally. It has really helped my thought process and I wouldn't change any of that'* (ME1 US). A researcher relatively recent into the area said, *'I feel it is also something that needs to be done and I am in a position to do so… no, no I don't think I would change anything'* (FR EU).

For the scholars researching the ethical and/or societal aspects of ICT, their work is more than a research project: it is a personal commitment that seeks to reach out into the world, and to positively influence the future of that world. As such it could be argued that this activity plays a significant role in defining who they are and their place in the world and underlines the view argued by Marx that work is more than simply a means of earning a living. However as will be seen later, this perception is very much undermined by their own practical activity. Having looked at how important the research theme is to the scholars who participated in this setting, the discussion will now explore to what degree they feel their work is a creative process. This will be followed by looking at collaboration.

5.7 Creativity

Discussing the connection between creativity and work was considered a valuable point of departure when investigating alienation and scholarly activity for two reasons. The first is that it relates to Marx's idea of work being intrinsic in helping to fulfil what he calls our species-being. In his scheme of alienation commoditised labour instead of being a positive, creative and life-affirming experience, is a negative and undermining condition. Creativity is normally regarded as a satisfying activity and therefore considering this aspect of scholars' views of their work could provide an effective examination of alienation. The second reason was that the discussion on creativity provides a useful reference point from which all other aspects of the scholars' work can be considered. The interviews undertaken for this setting identified three ways in which they believe they are creative: first there is their general view about the creative nature of their work; second, their perceived need to produce meaningful and influential outcomes; and finally their need for creativity in conducting the research process. Each of these aspects will be considered in the following sections.

The researchers were asked if they felt their work was creative and, irrespective of either being an experienced or recent researcher in the field, they were remarkably consistent; they all indicated their work to be creative. For them *'being creative means making something that wasn't quite there before'* (FE EU). Making connections that perhaps have been overlooked before which is a process of *'synthesizing and making connections'*, makes the work creative (ME2 US). For them it was specifically about exploring work in other areas and applying it to ICT. As an example, one relatively new researcher said, *'I am at looking actor network theory… and… value sensitive design… and relating them to a capability approach'* (FR EU). This view was supported by an experienced researcher who commented: *'A creative approach means taking what has been applied in other domains'* and utilising it in a different context (ME EU). The creative element is considered important even where the researcher is aware of her limitations in terms of originality. As one interviewee commented: *'Little of what I do is original but taking what has already been done and applying it to technology is creative… is a wonderfully creative, imaginative and intellectual thing to do'* (ME1 US).

Referring specifically to ICT and ethics, a number of the participants said that the subject itself allowed room for creativity since *'ethical and societal issues of ICT have been overlooked… there is a need to look at ICT from a new perspective. This area allows for a lot of creativity'* (FR SA). This echoes the views of another participant who said it is *'very much a creative process because it is a relatively new field compared to say medicine… not a lot has been done in this area… [there is] room for creative work, looking at emergent technologies and relating ethics to them'* (ME3 EU). Another interviewee put it this way: *'The intention of research*

is to create new knowledge and add to the existing knowledge base… My gut feeling is that what I do is creative. I wouldn't be doing it if I wasn't' (MR EU).

From the foregoing comments it can be seen then that creativity plays an important part in the motivation of the scholars who were interviewed for this study. For these scholars, the space to engage with a creative impulse should form part of their everyday activity which supports the notion proposed by Marx concerning the importance of labour to the worker. The following sections will consider how this notion of creativity relates to the practical outcomes of their work.

For the scholars, it was important that their work realised tangible benefits. This is not surprising given they are concerned in one form or another with the relationship between society and ICT and their ability to influence that relationship. Thus, they shared a collective view that their creativity had to take concrete, practical forms such as, for example, the creation of a framework governing the use of ICT; publications like reports; a course of academic study; the creation of communities aimed at broadening and deepening interest in the topic, such as those which has developed around *Ethicomp*, societies, and journals; the production of a specific ICT product; and a system valuable to end-users. The last two were particularly important for scholars engaged in research related to ICT for Development (ICT4D). For some of those more closely allied to ICT and ethics, the creation of, for example, codes of ethics were considered important. In some instances, the audience for these outcomes existed outside of the academic community, with for example one of the participants regularly writing a column for a technical magazine; another giving presentations on ICT and ethics to large multinational ICT companies; and others being engaged in linking ICT to rural development.

The participants were extremely sensitive to the need to produce publications such as conference papers and/or journal articles and this was considered a critical aspect of their work. One very experienced scholar referred to a *'very creative'* paper written some time ago that has since been taken up in some parts of the subject area. He added that he believed his location, in Europe, allowed for greater creativity than has been experienced by academics working in the US (ME2 EU). This production of intellectual artefacts was seen by all participants as being of critical importance for their sense of self-worth. Even where research programmes result in a product for an external body, such as a funding body requiring a final report, or a piece of equipment, researchers believe that the publication of journal articles is central to their role. The motivations described here strongly echo some of the comments Marx makes about our species-being, in that we seek to change the world to make it more fit for living but do so in a creative, contemplative and reflective manner.

However, the outcomes of this creative endeavour are often directed at other academics since journal articles and conference papers tend to be read only by those active in academia. In this respect, researchers in this field are no different

to those working in other subjects. So, as Jones argues, unlike the artist who produces for a general audience, academics create for their peers located within a relatively restricted community consisting of people 'who are familiar with the discussion that led to the work at issue and who, consequently, understand the presuppositions and assessment-criteria upon which the claims being made are based' (Jones 2013: 82). The above discussion indicates that creative activity is seen by scholars as a vital part of their work and is seen by them as being expressed in a concrete form. The following section looks at how creativity is applied to the research process.

For some of the respondents, creativity is a condition for undertaking the act of researching: it is integral to the activity. As one contributor commented: there is a *'need to be creative, to find novel aspects of a problem… creative to define a research problem and to do something and to find an answer'* (ME1 EU). This view was echoed by the views of another scholar when she said, '*I am going down avenues that people have not been before…I am approaching things in a different way… I am creating an alternative'* (FE EU). A significant amount of research is currently being undertaken in a collective environment with research proposals often requiring teams of academics to collaborate to initially write and submit grant applications and subsequently undertake research. This environment also encourages scholars to apply their creativity beyond the production of the specific outcomes discussed earlier and is seen as a key component of the work process in which these scholars are involved. '*You need to be creative' [because of the need] 'to collaborate, to share data... and to make things happen'* (FE EU). Creative problem-solving is considered an important element in developing solutions to difficulties that may be encountered. In particular, the participants identified the challenges evident in trying to get end-users, technical experts and academics working effectively for the same objective. Creativity of process is therefore seen as an important requirement to achieve outcomes. As can be seen then, the notion of creativity runs like a gold thread through the actions of the scholars who participated in this part of the study. They were also aware that much of their work demands collaboration with others and the discussion now focuses on this aspect.

5.8 Collaboration

All but one of the participants indicated that they considered their work to be of a collective nature in one form or another. For some, the collective aspect referred to drawing on the previous work of other contributors to the field. As one participant said: '*I always say we stand on the shoulders of giants. You cannot write something interesting if your work is not embedded into a particular framework'* (ME4 EU). Most referred to a peer-review process, either informal or formal.

'*I have not written any paper that I have not shown to someone else… so it is collective*' (ME2 US). The positive aspects of collaboration were emphasised by several of the interviewees as indicated by one of the scholars, '*this is a collective process… within Europe it is very collective… people don't want to re-invent the wheel*' (FE EU).

A further comment related to the sense of belonging to a wider community: '*I have the feeling I am not alone in getting this process across*' (FR EU). This sense of community registered strongly in many of the contributions with one interviewee saying, '*I rarely write something by myself anymore…I am always collaborating*' (ME1 US) and another commenting that '*all my work is done jointly with students… and I collaborate with other academics*' (ME3 US). Most of the scholars interviewed for this setting would support the view that research in a collaborative environment is a positive experience with two saying: '*I have a fantastic collaborative environment*' (FR AUS) and '*Most of it is collective. We work in teams with universities or students or supervisors… Whenever we are involved in a project it is usually a huge team*' (ME3 EU).

For some, research can only be successfully undertaken within a collaborative environment. As one participant said: '*the whole idea of research only works as a collective effort… nobody can do it on their own. The individual has a role… [it] becomes important if it is part of a collective endeavour*' (ME EU). This interesting comment hints at the notion that individuality can only be expressed in a relationship to a wider collective environment. For some participants, collaboration played a fundamental role in the development of a supportive, nurturing context within which research could be undertaken. The Ethicomp conference and its supporting infrastructure were cited as an example of a positive and inclusive milieu which seeks to address the key issues relating to the ethical and societal issues of ICT while encouraging, embracing and valuing new researchers in the subject. The participants' comments in this section of the study indicate a strong resonance with the co-operative nature of work identified by Marx in his discussion about alienation.

The evidence presented so far describes a condition in which these scholars see their work as a life-affirming, creative and collaborative experience from a number of perspectives and as such they are prepared to make a considerable personal commitment to the research. While appearing to confirm Marx's linkage between concept of species-being and creativity, it is also at odds with his theory of alienation arising from the labour–capital relation. However, in applying Lukács' formulation of totality, mediation and immediacy, there is a need to zoom out and to place this activity in a wider context of trends in HE to consider whether this broader environment has a positive or negative impact on the scholars' work. The following sections seek to explore issues such competition, as it appears in various forms, the publication environment, institutional pressures, and control of the research agenda. The discussion opens by looking at academic competition and then moves on to consider the other issues.

5.9 Research and Competition

As has been discussed above, scholars considered creativity and collaboration as playing an important role in their work: indeed, it is seen as a necessary requirement for them to engage in research. However, this creative and collaborative engagement takes place within a wider context of trends in HE whose broad characteristics have already been outlined. The conversations with the scholars indicated that they are sensitive to this wider context and are aware that it impacts on how they go about their work. The interviewees identified how competition is evident and influential in specific areas of activity, some of which had not been anticipated in advance of the data gathering. The areas identified by the interviewees where competition had a significant influence included: funding, publications, on relations between institutions, within institutions, within the subject area, and with other subject areas. They also spoke about the impact competition had on their activities. It is these aspects that are discussed in the following section which opens with a reference to funding.

Access to funding plays four vital roles. Firstly, researchers depend upon the allocation of resources, which can take various forms, to provide support for their work. In addition, successful access to funding forms part of the criteria determining the worth of a researcher, measured both formally and directly, say within a given institution, such as the allocation of research hours and in considering applicants for appointments, and indirectly as, for example, in determining who would be a worthy partner for projects both internally and externally. Thirdly, winning funding imbues the successful applicant with a credibility that can be cashed later for further funding. Finally, and this is particularly so for research centres, it binds researchers together under a particular research agenda, often of an international nature.[3] However, as research indicates (Rodríguez and Zaballos, 2013) the quest for funding is undertaken within an environment that is increasingly competitive as funding for research has experienced considerable cuts in recent years.[4]

One experienced researcher recalled the intensely competitive environment of a previous workplace that *'was a very competitive environment…[at two others there was a] great scramble for grants… at another we were constantly talking about where the next grant proposal was coming from…'* (ME3 US). As the following comment indicates, this environment has a directly adverse impact on researching the subject area: *'One of the most effective computer ethicists… uses his spare time writing on computer ethics because… he is required (by his institution) to get large scientific grants… it doesn't help him when there is this competition model'* (ME2 US).

Not all participants have encountered the scramble for funding. As one interviewee commented: *'I have not had any problems with competition funding because I produce papers… [but before]… it was a problem getting an organisation to fund me.'* However, this comment was quickly followed by a reference to

the difficulties in getting access to funding in his home country: *'In my country if you are not linked to someone very powerful you have no chance of getting a grant'* (ME2 EU). This experience echoes the reference made earlier to funding following a person of influence rather than excellence. Other participants concurred with the sentiment expressed by two scholars with one saying, *'In one way… all research is competitive… you compete to get funding from different agencies'* (ME SA) and *'There are certainly limited resources… amounts of time and funding from national agencies… '* (ME3 EU). Having looked at competition for funding, the discussion will now shift to consider the competition involved with publications.

A great deal has been written recently on the problems associated with getting published and, as mentioned earlier, all the scholars interviewed for this study felt that publishing papers was a key aspect of their work. One recent researcher in the field said, *'Competition relates to publications... getting the word out… getting your publications known'* (FR SA). Her immediate concern was to disseminate her research as widely as possible yet, as another participant from her region notes, *'In my country there is only one set of peer-reviewed journals and resources are affected by who gets published'* (FE SA).

These two quotes neatly summarise the problem facing any scholar seeking to reach out to a wider academic circle: *'Because there are a limited number of publications and spaces this leads to competition'* (ME2 US). Publication is critical for the diffusion of research results and directly impacts on the distribution of research funding. The problem is compounded by the self-perpetuating hierarchy of journals in terms of ranking. The higher the ranking the more difficult it is to get a paper accepted by a journal thus increasing the intensity of competition. As one interviewee said, *'Getting into certain journals is highly competitive'* (ME1 US). The impact of this environment on the mood of the scholars, particularly those new to the subject, is summed up by one participant when she asked, *'Have you not heard of publish or perish?'* (FR EU). The hierarchy of journals is matched by the hierarchy of authors for, as one contributor said, *'If your name in the field is known, there is normally no problem to get published. If your name is not known… it is very difficult to get published'* (ME2 EU). He went on to say that a paper that had previously been rejected would now be accepted because of his reputation.

A key aspect of publishing is the peer review system and all of the participants in this part of the study had experienced peer reviewing, in one form or another, and their views on peer-reviewing were mixed irrespective of whether they were recent or experienced researchers. Talking about peer reviewing for journals, two scholars commented: *'Usually I am quite happy with it… it is helpful… my experience generally is that they* [reviewers] *are helpful'* (FE SA) and *'most of the time I appreciate the value added by the reviewers'* (ME1 US). Another commented that she found the system *'valuable, and sometimes you get excellent feedback and it helps you improve'* (FE EU) and one other said, *'Sometimes it was really helpful'* (FR EU).

However, almost all of these comments were qualified to one degree or another. *'I mean sometimes you are frustrated by reviewers' comments...'* (FR EU). Another explained that *'you are assuming that it is an expert who is doing the review... and has an overview of the field... this is utopian now because... it is impossible for someone to have an overview of all that is produced'* (FE EU). Another participant remarked that *'sometimes the reviewers are not a match with the topic'* (FR SA). Rejection of a paper is not a light matter for these scholars, for as one experienced researcher in the field said, *'Some of the time I think it is unfair and incorrect and I take it personally'* (ME3 US). To this he added, *'Getting accepted is a big deal. Even at this point in my career I still get rejections, and this is still discouraging'* (ME3 US). Overall, the participants felt that the idea of having their work reviewed by their peers was just a part of the research process activity and the general view of these scholars towards the journal peer review process was summed up one participant when he said *'I feel about the peer review process the same way I feel about the job interview process... they always do injustices and yet they are necessary'* (ME3 US).

If the peer review system for journals appears as an imperfect and yet necessary process, project reviewing was seen as extremely problematic by one participant with experience of projects as this extended quote indicates:

> When it comes to project review this is a different story... it is of a very low standard and not really serious... from within the European Union... there is pressure not to be too critical... there are lots of problems with this review process (FE EU).

Given that substantial sums of funding are now available for projects concerned with ICT from the EU and given that these projects include a wide range of researchers, the weakness in the review system identified by the comment immediately above has consequences for the quality of research. There is a further problem associated with publishing linked to authorship which is in turn related to the prolific publishing schedules of some scholars. Ioannidis, Klavans and Boyack (2018) have undertaken an examination of primarily scientific papers to show that there are relatively few academics publishing a significant number of papers with the number publishing 72 or more per year having increased over a 14-year period. It is not surprising that they open their paper with the sentence: 'Authorship is the coin of scholarship — and some researchers are minting a lot' (Ioannidis Klavans, and Boyack 2018: 1). Having considered aspects linked to the competition involved with funding, publishing and peer review, the discussion will now briefly consider other forms of competition identified in the interviews.

So far, the discussion on competition has focused on funding, publication and peer review. However, competition exists in other guises and this section touches upon three identified during the conversations with the interviewees, namely competition between theoretical approaches, academic societies and

disciplines. Scholars concerned with researching the ethical and societal implications of ICT, like academics in other disciplines, draw upon an array of theoretical perspectives to inform their investigations and individual researchers can focus on a particular aspect. In the specific context of ICT ethics, one experienced scholar said, *'I push practitioner ethics… others take a more philosophical perspective'* (ME2 US). There is tension between these two broad approaches which has been exacerbated by the expansion of interest in the area. In discussing the globalised nature of the subject area, an experienced scholar referred to a possible competition for a hegemonic position within the field and remarked that we *'might start to see clear competition between approaches… competition between… Anglo-American and ... Continental Europe and Australia on the one hand... and the Islamic countries and China and India on the other'* (FE1 EU). One participant noted that this growing interest has led more academic societies to become concerned with the subject thus creating competition for resources, including people. He added, *'… we don't always play nicely with each other'* (ME1 US).

A further area of competition mentioned by the scholars related to competition between disciplines and the pressure this creates in undertaking particular forms of data gathering. As one researcher said, it is *'a competitive process in terms of other areas of research… for example… economics… [and the]… pressure to get more quantitative data'* (FR SA).[5] Having looked at some of the competitive aspects of research in this field, the discussion will now turn to look at the impact of a competitive atmosphere.

This section looks at the differing perceptions of the participants of the significance or otherwise of the competitive environment. For some, competition was considered beneficial, and an important component in safeguarding quality; as one scholar commented: *'I want competition to be there as a sort of guard against fluff passing as good ethics'* (ME3 US). This view was supported by two other interviewees who remarked that, *'I do think that competition can lead to better quality'* (ME2 EU) and *'I do see the merit in competition as driving up… quality'* (ME1 EU). Although the latter scholar qualified this comment by adding that *'perhaps this is too simplistic.'* Another participant said that she enjoyed this environment: *'That is to me one of the reasons I am here. I like to work under stress'* (FE SA).

However, the comments from most of the participants were critical of the environment. Some identified competition as leading to exclusion with two participants remarking that, *'There are certainly people who are left wishing they had more interaction and influence'* (ME3 US) and *'I am starting to learn to be careful with people I don't know about sharing ideas… I limit now to working with a smaller group of people that I know and can trust'* (FR EU).

The grant tendering process, discussed above, deepens the exclusive impulse and has consequences for academics looking to develop networks and relationships; as one interviewee said, *'You have basically to win… so there is competition and you choose who the best partner is'* (RE EU). What is being highlighted

here is that well-established researchers or (increasingly) research centres are preferred to relatively less well-known scholars even if the latter have greater expertise in the subject area.

At the same time, the pressure to develop a high profile produces contradictory tensions for scholars that undermine the collaborative inclination for, as one participant said, *'Perhaps people who are younger and less well established… cannot afford to be too collaborative'* (ME1 US).

The choices made when deciding to publish research papers are strongly influenced, in several ways, by the competitive environment. Describing the situation in this context, one scholar said, *'In terms of getting into journals it is highly competitive where some journals have a 5% acceptance rate'* (ME1 EU). He later added that these *'are just different types of conditions that influence my behaviour.'* Some had doubts about how effective competition was in pushing up the quality of research. A more recent entrant into the field said, *'What you have in journals is not a measure of your work for society or how much you have helped stakeholders'* (FR EU). They are also aware that often their work and the work others produce are not of an original nature, for as one of the participants said, *'The idea of publish or perish is for me is something quite bad because I think that only creative papers… saying something new should be published'* (ME2 EU).

Competition also has subtle, self-regulating impact. One participant in talking about his research output said, *'I certainly have made arguments that deep inside myself I would have made differently, on the basis that I knew that if I didn't do otherwise the work would not go through the peer review'* (ME1 EU). It is important to recall here that the participants were scholars who are deeply interested in the ethical and societal aspects of ICT and this particular researcher was an advocate of competition. However, as the quote indicates, he acknowledges that the pressures of competition compromise intellectual integrity.

The notion of creativity is also undermined by the competitive environment. As one interviewee said, *'The problem is that when you have so much pressure to publish you cannot publish something creative all the time so you have to publish something quite average… not something particularly new'* (ME2 EU). The process being described is one where scholars must publish and impose self-censorship on the intellectual core of their work to meet the demands of a given journal and/or institution and knowingly submit work they feel is of an inadequate standard. The implication underlying these sentiments is that competition has a significant negative impact on the quality of intellectual endeavour because it limits the scope of research (it has to fit with the demands of the preferred journals) and leads to the recycling of existing ideas.[6] Furthermore they imply that the competition to publish denies the possibility of judging the significance of research using other criteria.

Competition also has a negative impact on the collective nature of research and here not all the participants felt the collective effort was beneficial. One

researcher working in Europe said, *'Doing the research individually but listening and getting comments from other researchers…projects create the need for a more collective approach…[this] can be negative… it would be better for individuals to get research money'* (ME3 EU). One indicated that she preferred to work alone: *'I have very little collaborative work… Philosophers are usually loners, right?'* (FE EU). Another hinted that collective work can disguise individual contribution. *'The most recent work was part of a team… we published as a team, but I did all the work… I had the time… they had the grant… '* (FR AUS). Competition results in winners and losers and as one scholar remarked: *'I think that the people who are at the top of this field have won this competition'* (ME1 USA). However, for those who have *'won'* they must keep winning which is not a given and there are continual reminders of this. One experienced researcher said that the competitive nature of research becomes evident, *'every time you get rejected for publication be that a paper or proposal'* (MR EU). This is also the experience of emergent researchers for as one participant commented, *'entry-level researchers do consider it to be competitive'* (ME3 USA).

In talking about how she felt about the competitive nature of the activity, one scholar said, *'I struggle with that personally quite a lot… the tension between scientific goals of the university and social goals is very stressful… '* (FR EU). Another articulated a view that sailed close to the cynical and resigned when he said it is *'part of the game'* (ME1 EU). Having looked at issues arising from the competitive nature of the research environment, the discussion will turn to consider to what degree scholars believe they have control over the outcomes of their work.

5.10 Control of Outcomes

Participants made a clear distinction between what they produce and what control they have over how their final creation is used. Thus, one very experienced researcher said, *'I have enormous control over what I am writing'* (ME2 US) and this was supported by another interviewee who remarked, *'I can produce anything I want now'* (ME2 EU). These sentiments clash however, with those who expressed concern regarding competition where the final outcome can be influenced by a self-censorship process with papers and/or grants applications being tailored to meet the specific demands of a given publication/funding body. These comments link into the discussion Marx makes about alienation in that they indicate that these researchers seem to believe they are in control of their work, whereas the objective context, as discussed earlier, creates an environment within which external overarching imperatives drive the research agenda.

In other contexts, control of outcome can be quite overt with several other scholars noting that for externally funded projects outcomes can be

predetermined. As one remarked, *'It depends on who you work for… if the purpose and objectives are given to you at the start of the project you have less control over the research because you only give the results they want'* (FE SA). This does not mean that the scholars simply write what the funding body wants to hear, but that the scope of the research is constrained. As a result, other aspects are ignored, even though they may be considered by researchers to be worthy of investigation and directly related to the specific study. While there were differences of view over what control they have may have, for example, over the content of the papers, for example, they may write, there was a near unanimous view among the scholars about how much control they had once their work went out into the world. In discussing this aspect, comments such as *'Very little to tell the truth. You know when you produce these documents you basically submit them to the [fund provider]… and that is really it… we don't have any real influence… we finish a project and say goodbye…'* (ME4 EU) and *'to be honest, I don't think we have any control over how work is used…'* (FR SA) as well as *'little. Certainly, academic research gets published and then whatever happens, that is out of your control'* (ME2 EU) were common. This lack of control over outcomes is a critical feature given that earlier it was noted how important outputs are to the creative process and the desire to make a positive impact on the use of ICT.

As these comments indicate, scholars are extremely sensitive to the lack of control they have over how the papers and suchlike they produce are used. The conversations with the scholars also revealed a deep sense of regret over this situation. One developing researcher said that *'this can be quite disheartening because… the result of hard work… is just brushed off and not really applied'* (FR SA). This perspective was echoed by another who remarked *'After I have finished and published and tied it all up... there it sat which was a great pity… '* (FR AU). These sentiments were shared by the more experienced scholars one of whom observed, *'I don't have any control over how that report is used. As a researcher there should be some way to control or inform yourself how these things are used'* (ME4 EU). One participant noted that this lack of control may have an impact on future research when she said that *'…I think the issue is interesting… I have been thinking about it in terms of the ethics of this and how you, down the production line…flag-up areas for the people who are coming up next'* (FE2 EU). This section has discussed the issues emanating from a situation where scholars feel they have very little control over how their outcomes are used once they have been made public. The next section looks at the institutional pressures to which the scholars who participated in the study are subject.

5.11 Institutional Pressures

Although all but one of the participants experienced a degree of institutional pressure to engage in research and to publish that research, not all experienced the demand to the same degree. It was noticeable that those scholars who were

nearing retirement or who had retired believed that the demands from their academic institution took the form of a light touch. For others, however, there was intense pressure from their institution. Most remarked that they were required to publish and generate external revenue from funded projects and suchlike. One was quite specific about the form this took:

> we get measured every six months using key performance indicators and if you do not comply out you go… they put pressure on you to produce outputs… I have to produce five peer-reviewed journal articles per year and at least ten conference proceedings… students make this easier (FE SA).

She went on to detail how a *'journal article is rated at 1 point, a conference paper is 0.5… and a book is valued at 5'* (FE SA).

Many of the scholars interviewed also teach, which creates conflicting demands for, as one remarked ,*'there is a perception that… we will need to teach better and at the same time we will need to do research… the entire sector has become more stressful'* (ME1 EU). Having outlined several key themes arising from the research findings of this setting, the argument will now move on to an analytical discussion of the data. This will open with a reference back to Marx's notion of alienation.

5.12 Analysis

Marx talks of the creative nature of mental and physical labour and how this is undermined by work in capitalism (Sayers 2011). Some of the comments made by the participants indicate that they firmly believe their work to be of a creative nature. Further, they are all committed to the subject area and, to varying degrees, see their work as important. All would like to see their work as influencing and contributing to developments in the field: for them their work had to result in tangible benefits. In addition, they spoke in positive terms about drawing inspiration from the work of others both past and present, and the nurturing, collaborative environment in which they would like to work. Moreover, they see the work they undertake as being an important element in defining who they are. It would seem, therefore, that the experiences of these scholars are at variance with Marx's approach to alienation in that their work seems life-affirming and collaborative in its nature, to be embraced rather than rejected, and engaging rather than alienating.

However, as the conversations with these scholars progressed, they revealed a deeper set of underlying sentiments that expressed a cluster of contradictions which presented real practical challenges for them and which arise from the intensely competitive nature of the research. The evidence indicates that these contradictions revolve around four specific themes: the significance of the work they produce; the control of the things they produce; the increasingly competitive

environment in which they work; and finally, the compromises they make to be successful participants in the competitive, academic 'game'.

It is clear from the interviews with the scholars that while they would wish it to be otherwise, they know that ultimately the worth of the things they produce is not determined by whether they lead to positive, tangible benefits for society. The scholars know that their research output is the currency, the cachet, which opens access to further resources for research and/or helps to develop an academic career. That currency is measured by things such as publications in high-ranking peer-reviewed journals, citations and participation in grant-winning teams. Thus, their research is of value to their institution only in so far as it can be exchanged for something else, and that something else is determined by the organisational imperatives of a range of hierarchies manifestly beyond the control of the scholar. This immediately raises several issues linked to control of, say, outputs. The first is how much control scholars have over the process that determines the importance of their work. The evidence indicates that in several aspects, such as publishing and funding for example, scholars have very little control over this process. The ultimate ambition of any researcher is to be published giving rise to practical questions such as where to publish, what criteria will selected publishing outlets use to assess her work, what does she need to do to get published, and, after peer review, what changes are required to get it into print.

For journals, few academics have an input into determining the ranking of a journal and none of the scholars interviewed indicated that they had played any role in this context. Thus, the prestigious nature of a given journal is decided by the 'other' as is the worthiness of a given paper to be published. The peer review system, based on anonymous assessments, operates in tandem with the ranking process so that when a paper is reviewed, the scholar takes the criticisms and uses them to make the paper more publishable even if, as was hinted during the conversations, this alters, if only partially, the author's original intent. The goal is now to get published. This process distances these scholars from the original motivation they described thereby creating a conflict between the original intent and the need to be published.

A second issue relates to the employer, for while the 'other' making decisions upon the publishable worth of a research paper are often remote, the employer is not. For the scholars interviewed, their employer has little, if any, view on the impact a piece of work may have on society as a whole. The employer is solely concerned with the institution's research profile and this is measured by research assessment exercises and so forth. These pressures constrain what the researcher chooses to investigate; how the investigation is conducted; how the findings are presented; and the frequency of publication.

It also has further, deeper ramifications for it displaces the importance of the researcher's significance of her own work and confirms the value judgement of someone else, be it the publisher, the quality assessor or the institution – people

and organisations over which the scholar has no control. The interviews show that all participants are aware of these tensions and that most find them stressful. A small number, such as those who have retired or are close to retirement and/ or some of those who have been involved in researching the subject for a lengthy period, indicated that their direct, immediate experience of these tensions had diminished.

A third issue relates to the distribution of research funds which tend to go to tried and tested institutions and academics. The tendering process encourages institutions to develop close relationships and collaboration with others who are most likely to influence the providers of funds. It also means that funding bodies have much tighter control over the research agenda since both general applications for grants and tendering for specific funds have to dovetail with the imperatives of the grant provider, which, for example, in the EU is focused on strengthening the knowledge-based economy. These developments encourage the emergence of a research hierarchy of organisations, people and ideas, and strengthen a restricted view of what is considered valuable research.

If the process is one which undermines the researchers' notion of value, what control do they have over they work they published? The remarks in the interviews made it clear that for these scholars they have no control over how their work is used once it is published. The article or paper or book or chapter goes out into the world and there is virtually no possibility of determining its impact or indeed its subsequent republication. This is a significant regret for the participants in this setting. The lack of control over both process and product are primary conditions for the theory of alienation advanced by Marx. In what appears at first sight to be the creative and, to some degree, autonomous work of the scholar, belies a deeper reality in which the scholar is in constant conflict arising from a range of contradictory pressures.

Having looked at the issues associated with process and control, the analysis will now focus on the consequences of the competitive environment. The data gathered from the participants reveals the extremely competitive environment within which they work. While some feel this condition is of some merit, most believe that it undermines research activity in general and their own work. It has implications for relationships with other researchers. Apart from the obvious point that other researchers are considered as competitors for resources, the interviews reveal the adverse impact of competition on relationships operating at more profound levels. Competition engenders fear of other researchers and encourages a lack of trust arising from the possibility someone else may steal an original idea. At the same time, the nature of competitive research requires that people work together in teams. Instead of the open and collegiate atmosphere sought by scholars, a contradictory set of relationships is established based on the need to be both competitive and collaborative, yet guarded, in the same moment. Thus, the collegiate impulse which scholars seek to employ in their

relationships with others working in the field is profoundly undermined by the competitive context in which they work.

The scholars in this study have a strong commitment to their work yet the pressures arising from competition contribute to an environment in which intellectual integrity is jeopardised and requires the imposition of a self-censorship. This self-imposed censorship is the practical expression of a conscious self-alienation since scholars are aware of the compromises they are making in order to become known in the field. In making these compromises, their actions contribute to the continuation of a system they recognise as flawed, and over which they have little objective control. Consequently, academics participate in building and perpetuating instruments of their own alienation. The evidence also indicates that for a significant number of scholars interviewed for this setting, dealing with the adverse environment they experience requires adopting coping strategies that involve a denial of preferred ambitions and priorities. It is reasonable to describe this as matching the notion of self-alienation. Further, if it is a reasonable conclusion that researching ICT is an alienating experience, then the commoditised product of that research must be viewed as inherently flawed as an objective assessment of the ethical and societal implications of ICT.

This analysis confirms the view that the key components of Marx's notion of alienation; i.e. alienation from product, process, others and oneself, can be used to examine and explain the condition of scholars who participated in this setting. The evidence also indicates that while the manner in which this alienation is manifested is mediated by specific particulars, there is a shared, overarching experience which influences the work of the scholars and which leads them to be alienated from what they saw as a life affirming activity. A further point of note is the attitude of the scholars to the notion of creativity both in product and process. In their responses to the questions on creativity during the interviews, the scholars were very clear about how important creativity was in their activities. However, when the questions began to focus on the determinants of both product and process, a picture emerges where the notion of creativity is intensely undermined by the overarching imperatives of the academic industry. This raises several questions concerning the space for creative, perhaps non-alienated, labour generally and within academia specifically, as well as focusing on creativity in researching alienation (McGuigan 2010, Woodhouse 2011). One area that has not been covered here but that needs further research is the potentially exploitative relationship between the postgraduate researcher and her supervisors.

5.13 Issues of Validation, Reliability, Bias and Ethics

Assessing the reliability and validation of the data gathered for this setting presented a challenge. As was the case with the chapter concerned with ICT

professionals, a complete version of this chapter was sent to the scholar partici-pants for their comment. However, unlike the ICT professionals, none of the scholars responded with comments on the text they had been sent apart from one asking to be sent a copy of the bibliography. Thus, reliability and valida-tion relied on two processes. The first involved an exploration of consistency of responses across the cases which indicated that on many of the issues dis-cussed, the participants shared a range of similar views thereby enabling a move towards analysis. The other technique employed concerned a re-interrogation of secondary research. This confirmed that the issues raised by the partici-pants are to be found in current research covering similar ground. The internal consistency within the interviews and their strong echoes of similar themes researched elsewhere support the view that the data gathered within this set-ting can be describe as reliable and valid.

5.14 Conclusion

This chapter has explored the views of scholars concerned with the ethical and/ or societal implications of ICT to test whether the analysis of alienation pre-sented by Marx is of any help in helping to understand their condition. It focused on both the processes and products of research and considered these within an overarching framework of intense competition. It also referred to changes that researchers appear to undergo as they go about their work as well the relationships in which they need to participate. The discussion indicates that Marx's notion of alienation has much to offer by way of understanding the day to day experiences of research academics. The act of engaging in the research process is a contradictory one. It enables the scholar to engage in work they deem to be stimulating, fruitful and beneficial in a creative way. Yet the act of researching changes the researchers and the pressures arising from the com-petitive research environment mean these changes are, certainly for most of the participants in this setting, strikingly negative in one way or another. As such it has implications for the way in which the outcomes of their work should be considered.

While the focus here has been primarily on research, studies relating aliena-tion to education could also encompass more recent developments such as the provision of Massively Open Online Courses (commonly known as MOOCs) which can be free, publicly available classes with normally with high enrolment. Some of the issues that could be explored here could investigate alienation among academics involved with MOOC; the experience of MOOC students; the experience of the technical staff involved in supporting MOOCs; the moti-vation of MOOC providers and the competition between courses, institutions and academics working both within and outside the MOOC environment. The impact of Covid-19 on online courses will be significant as universities expand

the use of digital technologies to deliver extensive online teaching. Similarly, relating Marx's theory of alienation to the debates concerning the development of an academic commons may add a further dimension to these discussions. The next chapter looks at the views of both the ICT professionals and scholars about a specific aspect of Marx's theory of alienation, namely their attitude to work.

Alienation and Work: A Common View

6.1 Introduction

Neither of the previous two chapters has explored what the participants attitude to the need to work which is one of the main conclusions Marx makes is that, given the alienated experience of people at work, as soon as there is no need for people undertake paid employment, they would stop work (Marx 1970b: 111). As he says, labour 'is therefore not the satisfaction of a need; it is merely a *means* to satisfy needs external to it. Its alien character emerges clearly in the fact that as soon as no physical or other compulsion exists, labor is shunned like the plague' (Marx 1970b: 111). This chapter investigates whether the ICT professionals and/or the scholars would continue working if they had the opportunity to stop.

To facilitate an exploration of this aspect of alienation, the following discussion focuses on the responses of both the ICT professionals and scholars to two questions asking participants to reflect on their work experience. The first sought to examine what changes they would make if they had the opportunity to start their careers again. The second asked what changes they would make if they had access to sufficient resources to enable them to be free of paid employment and to provide funds for any projects they would wish to follow. Although not every participant in each setting was able to answer both questions, most responded to at least one or the other.

6.2 Career Change?

In responding to the question about changing anything in their careers, there was a high degree of unanimity in the attitudes of the ICT professionals. Comments included '*I think I would go down the same route again... I am actually quite happy with my company... I don't have a huge itch to move into other*

areas of IT like networks or servers. So sadly, I am content' (M Software engineer) and *'I don't think I would change anything substantially. There have been good bits and bad bits in this career'* (M1 Project Manager II). These could be considered representative of the participants in this setting. One was even more definite about this, saying there was *'nothing particular'* he would change (M4 Systems Designer II). The evidence obtained from this question indicates that the professionals expressed a reasonable degree of satisfaction with the way their careers have developed.

One scholar said that his *'world view… doesn't encourage [him] to ask those kinds of questions because they are often invitations to regret and regret is only helpful if you can figure out what you are going to do now'* (ME3 US). However, others, like the ICT professionals, he tended to share their positive view about the way their careers had developed whether they were experienced or new entrants into research in the area even if some indicated that they would make some changes. One commented, *'Yes, I would get a PhD in England because most of my problems [have been with] my written English.'* Apart from this change however, he said that he would follow the same subject area *'because it is my interest'* (ME EU). Another participant also wished for some change when he said, *'I think it would have been smart for me to have had more training in philosophy in general and ethics in particular early in my career… I would have been a more profound thinker in this area.'* However, as with the previous scholar, he indicated that apart from this he would not have changed the direction of his career and *'would not change a thing with respect to the people… for collaboration'* (ME1 US).

Others expressed no reservations about their career trajectory. One was emphatic saying, *'No, I'm happy'* (FE SA). Another said his career *'wasn't planned in any way. Ten years ago, I wouldn't have told you that I would be a professor and head of research… so I am fairly happy with the way it has gone.'* He went on to add that *'I am not at the point where I would say that I would do something fundamentally differently'* (ME EU). Another participant expressed similar views saying she was *'pretty content with what* [her] *life eventually became and* [believed that] *considering the circumstances… made the right decision at each time in* [her] *life in the given circumstance'* (FE EU).

While the above-mentioned scholars are experienced researchers, more recent entrants into the subject area held similar views. As one said talking about her work, *'I feel it is something that needed to be done and I was in a position to do so given my background and the place where I am employed. So no, no I don't think I would change anything'* (FR EU). Another recent entrant who was a mature student before becoming a researcher expressed a slightly different view when she said that *'on reflection, based on my knowledge now, I would have also done research on problems associated with the new media. I would have looked at how machines are impacting on how people do jobs'* (FR AUS). These comments appear to indicate that both the ICT professionals and the scholars are

reasonably satisfied with their overall work experience. However, the data obtained using a second question, which sought to delve deeper into this theme, revealed a deeper contradictory perspective.

6.3 Greater Choice?

The second question on this theme was designed to draw out the views of the ICT professionals and scholars if they had sufficient resources enabling unrestricted freedom to choose both their areas of work and the way they worked. With the ICT professionals, this issue was discussed in both the group and individual interviews. In the group interview the professionals were asked if they did the lottery and all but one indicated they did. Their responses to the question of what they would do if they won are illuminating. Comments such as *'I have had enough of working in my life… I would say thank you, goodbye and walk out the door'* (M1 Project Manager II) and *'I would need to do some work to keep my sanity. I would probably go and work for a charity in an ethical area'* (F2 Quality Control GD) were common during this part of the discussion. Another said, *'I would leave it and do something for me. It may involve technology and computers'* (M3 Project Manager II). One participant was particularly vociferous in her views which drew a lot of nods of agreement around the table:

> Oh, I would come into work every day because it would be absolutely fantastic to come in every day and not give a shit what they did to you and just got on with your job. I would be doing all my union activities and wouldn't care if they tried to discipline me or not (F1 Asset Manager GD).

This theme was also explored in the individual interviews and, as is to be expected, here the respondents were more reflective and detailed in their replies. One ICT professional said:

> I have actually thought this one through… I would like to use my IT skills in a socially productive area. I did look into working for Oxfam and I considered maybe a move to Unite, to work for the union. Salary wouldn't be an issue. I wouldn't have the slightest problem about halving my salary if I was doing this kind of work but actually contributing to society (M2 Software Engineer II).

Another remarked that he would be *'very interested in how people use IT for organising and campaigning… because there are lots of free tools… but nobody seems to have… pulled them together into a coherent set and explained how to use them… So that would be a fantastic thing to do'* (M4 Systems Designer II).

A similar view was expressed by a different participant when he said, *'I would have done something completely different ... I am not in IT services project management because I have had a deep burning desire to do that all my life'* (M1 Project Manager II). Contrary to the responses to the first question, these comments begin to bring to the surface a profound unhappiness experienced by ICT professionals with regard to their work, and a strong sense that, given the opportunity, they would want to be engaged in other more meaningful forms of activity that emphasised a collegiate way of working. The next part of the discussion considers the response of the scholars to a similar question.

To facilitate consideration of this aspect, the scholars were asked what type of activity they would like to undertake if given a large suitcase full of money of large denominations with no strings attached. I was quite surprised to discover that all of them treated such a scenario with some seriousness. For one experienced scholar this would have no impact on his work, and another said *'I would do the same thing because I think you need to be accountable and I would research the same areas… With more resources I would add more people to the team'* (FE SA). A similar view was expressed by a more recent entrant into research when she said, *'I would still focus on what I am doing now because… it is really important to make a positive contribution to development. So even with a suitcase of money I would still have to finish my research'* (FR SA). However, a number of other scholars indicated that having access to and control over considerable resources would have a significant impact on how they went about their work. One experienced researcher said:

> How much cash? Secure my total retirement? ... I would create a condition for myself in which I would feel secure physically and psychologically and… gather around me a team of people to work with on exploring the problem of… knowledge… in general in society… This would probably be my ideal scenario… so I would stop working at the university (FE EU).

Another participant said, *'I would ditch a lot of the things that take up my time and energy… that is the administrative side of university life… which is not conducive to doing the research… There wouldn't be a radical break with what I do at the moment… I would… read more and… do more empirical research on things such as ICT4D'* (ME1 EU). Some of the scholars intimated that having financial security would result in a change of research topic. Thus, one said, *'I think the health aspect of information communications technology is something that is really important… that would probably be my personal choice'* (ME4 EU). Echoing the thoughts of other academics, he added that *'to manage your own time to try and create something is what it comes down to… you have that sense of creating something… if you are not doing work for money... I want to change society in some way or shape'* (ME4 EU).

Another said that he would use the opportunity to go back to some of his first *'loves and work in moral psychology particularly as it is related to spirituality'*. He added, *'I actually love talking and working with people who build stuff… I might continue with it and then add to it with something from moral psychology'* (ME3 US). One scholar described how this scenario is going to be near enough reality with a change of job that would give him almost total control over his working day. As a result, he said:

> This is exactly what is going to happen to me next year… I will be continuing to do things I am doing only collaborating with more people and if I need equipment it will be made available… I will raise the science and technology (and) moral issues about living with robots. I can't imagine anything more fun (ME1 US).

In these changed circumstances, he conceives his activity not as work but something other than work. It is fun. It is still labour with outcomes but relative to his other working life: this will be fun, directly connected to the agenda he wants to follow. The key notion here is relative to his existing employment thus he is not free from alienation for he remains within a labour capital relation. The overall attitude of the scholars is encapsulated in the following quote from a relatively new researcher:

> I would try to work on the philosophical and the applied aspects of the technology. I would try to do both because I think they could benefit from each other. I would still do research but would be happy to be relieved of all that publish-or-perish pressure… the choices I make would be based on what I think is important to do that would make a difference to the world (FR EU).

6.4 Analysis

The responses to the first question clearly show that participants in both groups feel they have made the right career choices. Although some indicated that they would make some relatively minor changes to their career trajectory, the general view was that they were comfortable with their jobs, for as was seen, words like 'content' and 'satisfied' peppered the responses to this question. Left at this point it could be argued that despite the adverse conditions described in the two previous chapters, in no sense does the evidence support the view advanced by Marx that a major consequence of alienation, for these two groups of workers, is that they would avoid work 'like the plague.'

However, the responses to the second question bring to the surface a profound, shared set of perceptions about how the participants of both settings see

their work. Further, these perceptions significantly contradict the comments made in the answers to the first question. For the ICT professionals, the option of having financial security would mean that without doubt all but one would quit working for their employer immediately and engage in other more satisfying endeavours which although connected to ICT would be directed to more socially orientated objectives. The one participant who would not leave work would seek to construct a scenario in which she would make life difficult for her employer leading, perhaps, to her dismissal. Here their views very much support the argument made by Marx in that they show that the professionals would indeed shun work as required under current conditions but would pursue other more worthwhile activities. At the same time, they reinforce Marx's argument about working being important since they also articulate a need to continue with some sort of labour-related activity but in an environment seeking to resist the labour-capital relation. Whereas the answers provided by the ICT professionals for the first question were in contradiction to the evidence they provided for chapter 5, their views expressed in response to the second question were entirely consistent with and indeed emanate from the nature of their work as described in that chapter.

While the comments of the ICT professionals sharply expressed the alienation they experience, those of the scholars were more nuanced and they identified two aspects of their work where they would make significant changes. The first was the work process where the scholars spoke of asserting their own priorities in their day-to-day activities. For one this meant quitting her job, while for some others it meant obviating the requirement to undertake onerous administrative duties and/or to remove the pressure to publish. This latter aspect would mean they could publish what and where they wanted rather than having to meet managerial publishing demands emanating from the needs of submissions to research assessment exercises.

The second element relates to the choice of research topic with a number saying that financial security would enable a change in the direction of their research allowing them to address issues they recognise as important and which would have a direct impact on society. strongly echoing the aspirations expressed by the ICT professionals. Scholars would clearly strive for much greater control over the processes and subjects of their research which would mean challenging the managerial imperatives of universities and research institutions inevitably leading to a conflict with their employers. It is not unreasonable to conclude that, given a situation of financial security, most of the academics interviewed would, like the ICT professionals, ultimately choose to leave their jobs. Under such circumstances, where they would have much greater control over how and on what they work, work would seem to be determined and judged by the needs of the other. However, while financial security would appear to provide a buttress against aspects of alienated work, all the preferred activities outlined by the ICT professionals and scholars would have been negatively impacted by existing social and economic frameworks. The

projects scholars and ICT professionals would want to pursue are directly concerned with the problems associated with digital technologies arising from the priorities of capital. This does of course raise several questions linked to possibility of engaging in non-alienated labour within a context where every aspect of life is dominated by alienated labour (McKenna 2013; Molyneux 1998, 1999).

6.5 Conclusion

Using evidence obtained both from the ICT professionals and scholars validates Marx's view that, as soon as the necessity to work has been removed, it is avoided like the plague. However, for both groups their specific working contexts influence the way the contradictions and conflicts arising from alienation are expressed. In one sense there is not anything remarkable in the discussion in this chapter. Its value lies in its contribution in enabling us to construct a comprehensive depiction of the shared underlying impulses governing the working conditions of both ICT professionals and scholars researching the societal and ethical impact of ICT. Stitching together chapters 4, 5 and 6 creates a tapestry clearly demonstrating that it is feasible to use Marx's theory of alienation to investigate and grasp those drivers that lead us to experience alienation in a contradictory way.

ICT, Senior End-users and Alienation

7.1 Introduction

There are two problems with the discussion so far. Firstly, it has focused on the work environment and if Marx's theory of alienation has any general explanatory power in researching ICT it must be applicable to a our relationship to ICT in a non-work environment; to research what Marx (1970) and Harvey categorise as universal alienation (Harvey 2018). Although Marx referred to the pervasive nature of alienation and its influence in non-work environments, he did not develop this aspect of alienation and therefore his theory is often, mistakenly in my view, considered as being applicable only to work. Here it should be noted that when Marx wrote the *Manuscripts* in 1844 it was quite common for all members of a family, including children from three upwards, to work in the mills and factories of the time. Hence, the very close tie between work and personal/family life and Marx most likely would have been aware of these practical conditions because Engels, his future long-time collaborator, was in the process of writing up his research for his book *The Condition of the Working Class in England* (1987 [1845]) when they met in Paris in August 1844. Marx also has an extended discussion in *Capital* about the consequences that a long working day, the division of labour, the introduction of machinery in a factory setting, and labour being a commodity, have on personal life. These comments reference back to his remarks when discussing Feuerbach where Marx notes that the division of labour defines a person's life activity where 'each man has a particular exclusive sphere of activity, which is forced upon him and from which he cannot escape' (Marx and Engels 1970: 53) He also talks of the impact the division of labour has on 'intellectual and material activity-enjoyment and labour, production and consumption' (Marx and Engels 1970: 52). These comments indicate that he appreciated the adverse impact the alienated relation between capital and labour had outside work. The second problem is that this

research has so far focused on manifestations of alienation, without considering what strategies or coping mechanisms could be used to confront alienation or their effectiveness.

This chapter addresses these issues by drawing upon data collected during a series of hands-on computer sessions undertaken with a group of end-user pensioners based in South London, UK.

7.2 ICT and the Senior User: Research Themes

Recent research on ageing and ICT has been driven by demographic trends indicating that by 2050, 20% of the global population will be aged over 65 and the EU has estimated that by 2060, a third of Europe's population will be over 60. The 7th Framework Programme for the Ambient Assisted Living Joint Programme, for example, allocated over 1.15 billion Euro between 2008 and 2013 to fund 140 projects concerning digital technologies for older people. The EU Horizon 2020 programme expects to expand by up to 25% since policy objectives on health and ageing cannot be realised without ICT innovation (European Commission 2020). These trends are propelled by and are seen as integral to the emergence of the so-called Silver Economy estimated to be worth, in Europe in 2015, a baseline value of €3.7 trillion primarily comprising private expenditure by older people (50 plus) on various goods and services, from housing to recreation (European Commission 2018b). The Commission goes on to argue:

> Official population projections suggest the Silver Economy will expand steadily over the next 10 years, across the EU. Based on the study's assumptions, it has the potential to expand by approximately 5% per year up to 2025, to €5.7 trillion. The study experts forecast the contribution of the European Silver Economy to GDP to reach €6.4 trillion and 88 million jobs by 2025. This would be equivalent to 32% of EU GDP and 38% of the Union's employment (European Commission 2018).

By 2020, Asia Pacific's ageing market is projected to reach US$3.3 trillion (GlobalAgeingTimes 2019). In North America, the over-60s are expected to represent nearly 50% of total consumption. Estimates put the global value of this new market at $15 trillion by 2020 (Global Coalition on Aging 2019).

Much of the research directed at this market revolves around issues associated with health, with studies concerned with ICT and people with dementia increasing eightfold since 2000 (Fabricatore et al. 2019). However, there is a growing recognition that seniors' use of digital technologies for activities such as online shopping and socialisation also present substantial opportunities for capital to make significant profits. Consequently, the thrust of the argument, which is primarily directed at marketeers, is that mature

end-users need encouragement to expand their use of ICT. From this per-
spective, mature end-users are stripped of their humanity save for the money
in their pockets.

However, while seniors are embraced as consumers, they are less welcome as
employees in the IT industry which, in the United Kingdom, shows a concen-
tration of workers (58%) aged 25–44 (Tech Partnership 2016). Current research
indicates that ageism continues to be a major problem within the IT industry
with 76% of IT professionals in a recent study stating they had witnessed age
discrimination (Dice 2018). Within the UK ICT labour market, discrimina-
tory practices are prevalent with HR managers frequently confessing that age
influences employment decision making. While these tendencies reflect age
discrimination more generally within employment, they are acute within the
ICT industry. Ageing and ICT are therefore intimately linked across a range of
issues.

7.3 ICT and Learning

The research concerning the general range of problems confronting end-users
of ICT shows that the difficulties experienced by senior end-users are not
unique to this user group. Mann's description of the alienating experience of
students in HE also resonates with concerns familiar to those connected with
teaching ICT across a range of ages and genders. Phelps et al. (2005) note that
where learners have control over their learning environment, they 'feel com-
fortable about learning any software, are willing to "have a go" and are generally
not intimidated by computers' (Phelps et al. 2005: 70). The approach of Phelps
et al. (2005) is relevant to the discussion about alienation and senior end-users
because they foreground the notion that control must be given to the learner
as s/he learns with end-users having the power to determine the pace, direc-
tion, purpose and product of their learning activity. Phelps et al. (2005) speak
of learners being 'agents (playing) an active role in co-constructing knowledge
through interaction with others and with their environment' (Phelps et al. 2005:
73). They argue that without the development of learning based on complexity
theory (a recognition that systems are comprised of multiple, inter-related pro-
cesses), computer training will fail to provide the 'self-directed learners needed
for an ICT based society' (Phelps et al. 2005: 81). For Phelps et al., self-activity
of the learner is central to effective learning and so is learning in a cooperative
environment leading to co-construction of knowledge through the interaction
with others. Although alienation does not form part of the discussion of Phelps
et al., it is possible to discern themes that fit with the insights presented by
Marx. The application of complexity theory allows for a degree of autonomy
to be given over to end-users and implicit in this view is the recognition that
powerlessness is often a problem for end-users in an ICT learning situation.
Similarly, the call for ICT learners to co-operatively engage with others is a

recognition that alienation from others needs to be overcome for learning to be more effective and transferable to new situations.

A study of web blogs in a web-based distance learning environment on student feelings of isolation, alienation and frustration noted that the lack of prompt 'unambiguous feedback and technical problems' are a source of student distress (Dickey 2004: 280). While providing an enabling structure for study, the technology also cultivates feelings of marginalisation and disenfranchisement for students learning in this environment. Dickey's research implies that small group communities play a critical role in the success of the blogs since they helped develop the notion of a connected community. Further, students used the blogs to discuss the issues and themes reaching beyond those expected in a more formal academic discourse and postings contained elements 'of socialisation, reports of activities and events, signs of support and reports of feelings and emotions' (Dickey 2004: 283). Through this process, students developed a support 'system within the community' and could 'empathize' with each other's problems (Dickey 2004: 284); they were in effect breaking beyond the initial parameters set for the activity. Dickey remarks that 'learner perceptions of community and alienation impact on learning' and that the use of technologies such as blogs can enhance the community and thereby help alleviate feelings of alienation (Dickey 2004: 290). Dickey's paper is a further example of how instructors of ICT increasingly see the need to consider concepts such as alienation and isolation and how they view technology to be both the creator and solution to these experiences. However, the concepts of alienation and isolation are not fully described or explored and are left hanging in the air, being used as labels to name some vague form of dissatisfaction.

ICT usability design and human-computer interaction are beginning to appreciate the value of community in developing systems for seniors. Research advocating a turn towards community, argues that ICT designers concentrate on the communities that seniors 'engage on the daily basis of their interests, skills, needs, goals, self-identities and contingencies of daily life and life transitions' (Righi, Sayago and Blat 2017: 26) thus anchoring the learning of ICTs to a real practical context and recognising that senior end-users need to learn within a collegiate environment.

Several key features emerge from the review of research concerned with learning and technology which are of direct significance for end-users' experience of ICT. First is the recognition that initial expectations about the positive role of ICT within the learning environment across a range of levels and subjects have not been realised. Second, the preliminary response to this problem focused on technical solutions which ultimately failed to resolve the contradiction between what the technologies can do and what actually happens. The third is the recognition to move beyond technical solutions and to embrace approaches inspired by theoretical frameworks associated with other disciplines. Another aspect is the frequency with which terms such as isolation, marginalisation and alienation appear in the literature even if these lack a specific coherent

definition. While reference to concepts associated with alienation seem important for investigating other societal issues, they are neglected by research concerning the relationship between senior end-users and ICT. The discussion will now focus on the Southwark Pensioners Action Group (SPAG).

7.4 Southwark Pensioners Action Group (SPAG)

SPAG is a campaigning organisation, welcoming members aged 50-plus living in Southwark, providing advice on a range of issues and campaigns including adequate pensions and welfare needs of older people. It has protested over winter death rates for UK pensioners and the problems faced by older private renters in Southwark as well as the closure of a local specialist mental health service for older people. Members also belong to other groups such as the Southwark Pensioners Forum (SPF), resulting in a friendly, active and lively group which encourages people to join. It is based at the premises of the Southwark Pensioners Centre (SPC) which has over 800 contacts and 20-plus affiliated groups and community organisations. More recent actions include an initiative by SPAG is to gather the stories of the over-50s during the Covid-19 pandemic.

SPAG participants had several objectives and a range of motives for developing their ICT skills most of which were directly connected to the roles they played in organisations such as charities. A flavour of the group's make-up can be gleaned from a sample of the SPAG participants, a mixture of women and men. For example, a woman, aged 70, who had worked with pensioners' organisations in Southwark for the previous 10 years and played a leading role in the celebration of the State Pension centenary, investigating local history and producing educational materials. She had been editor of the SPAG newsletter and had developed a wide range of skills during her career in education, including public speaking, writing and working in a team. She had been Chair of a local tenant's association, a trustee of Bermondsey Village Hall and also of Southwark Victim Support and a school governor. Before retirement she worked in education as a primary school head teacher for 22 years. She had a sight impairment causing difficulties when reading the computer screen.

One of the men was 92, had lived in south London for all his life and had only very recently come to ICT. His ICT skills were almost nonexistent, and he had advanced arthritis in both hands. Another participant, a woman in her 70s, had been active in a range of political and community groups and lived most of her adult life in South London. She was also fluent in three languages, English, French and German, and had worked extensively in the print industry as a proofreader and photo-typesetter. Because of her working background she had experienced the adverse impact of technical developments in the print industry. Since she also used technologies, including social media, at home, she had a fair degree of skill in ICT. These brief profiles indicate the group participating in the hands-on sessions was a mixture of ages (after all there are some 20 years

between someone aged 70 and a person aged 92), gender, skill level, and physical abilities. The common thread shared by all participants was a keen desire and determination to enhance their computer skills.

7.5 The Group Sessions and Individual Interview Processes

The first group discussion was a planning meeting in the Fox on the Hill pub on Denmark Hill, south east London. I had been invited to give a presentation at one of the monthly open meetings of SPAG and the planning meeting flowed from a request by SPAG members wanting to participate in the computer sessions. They felt that participation would be more productive with a planning meeting prior to the start of the sessions. Even at this early stage participants wanted to shape the nature of future discussions. Several reasons informed the participants' proposal to meet in the pub. It provided a relaxed atmosphere within which to discuss the research activities; it was geographically central to many members of the group; it was known to most of the group; and finally, was possible to reserve a quiet corner suitable for a large group. Following the principles of PAR, one of the participants approached the pub management to reserve the space which was indicated their desire to take ownership of the process. It may be that in other research programmes involving other participant groups, the choice of a pub may not be considered particularly appropriate. Refreshments provided were coffee,tea and sandwiches.

The initial group meeting agreed that the Southwark Pensioners Centre (SPC) should be approached by SPAG to book the computer room and for participants to negotiate with the management of the SPC over the cost of hiring. The frequency and length of each session should be decided at the first ICT session. SPAG members also agreed to design, print and circulate a flyer advertising the sessions, set up an email/telephone distribution list of those wishing to come to the sessions, and encourage and monitor attendance. Further, it was agreed that the dates and times of the sessions would be the product of a discussion between the SPAG end-users and me. These decisions to commit both personal and financial resources indicated a considerable commitment by participants to the project.

7.6 The Hands-on Sessions

Following from the discussions with the SPC, ICT training sessions were planned to run over a 15-month period with breaks arising from alternative commitments from the participants and myself. The sessions were undertaken in the windowless computer basement room of the SPC with eight networked personal computers using Windows XP with a networked inkjet printer and each having access to the internet running on Windows and using MS Office. Although

the content of each session varied, the structure was the same. Each session opened with a round table discussion focusing on three key themes: reflection on the previous session; activity undertaken by SPAG members between sessions; and the priorities for the current session. Post-session discussions, which were effectively an on-going critique of the process, enabled participants to reflect on their immediate experience; identify issues needing to be addressed in the next session and recommended activity members could undertake to both reinforce the learning and prepare for the next session. Participants numbers ranged from six to eight per session. Having obtained permission from the participants, the preview and review discussions were recorded on a digital recorder and, towards the end, were recorded on video. Although these discussions were initially researcher-led, once the routine had been established, the discussions quickly became participant-driven because of the familiarity the participants had with each other. This was encouraging since it indicated that the attempt to engender a PAR environment was successful.

The individual interviews were undertaken shortly after the end of the series of hands-on sessions and carried out at a time convenient to the interviewees. They were conducted in an environment with which they felt most comfortable with some in the Southwark Pensioners Centre, others in a cafe or at home. As with the group sessions, all the interviews, which lasted between 30 and 75 minutes, were digitally recorded. The purpose of these interviews was to allow participants to speak at length about their experiences with ICT and to critique the collective hands-on sessions. Luckily, one of the participants had been a photo-typesetter and agreed to transcribe the individual interviews and the hands-on sessions. This resulted in a significant amount of suitable material of both a collective and individual nature with the two different elements complementing each other.

7.7 The Basement Tapes

The conventional process for planning and undertaking ICT training sessions involves identifying learning outcomes before each session and tailoring the learning materials to match the learning outcomes. For the participant, the programme arrives pre-packaged, often with imperatives emanating from and reflecting the priorities of either the trainer or the programme's author, driving the learning programme. The pre-programme ability of the participants is determined through either an online assessment tool or the use of hard copy questionnaires focused on the skills and competencies of the participants. A programme's success is often measured by participants undertaking a series of set tasks or an end-of-unit assessment activity such as an online test.

In many instances the person responsible for designing the programme is not the person responsible for delivering it and the underpinning ethos is based on the need to deliver the required knowledge in the cheapest, fastest and most

tightly managed manner possible. Following a strict agenda, little, if any, time is set aside for the exploration and consideration of the programme by the participant or to engage in a wider appreciation or discussion about the technology. The learning sessions undertaken with the SPAG sought to break with this process.

No formal learning objectives were outlined at the programme's start and no attempt was made to determine the skill level of the participating group either before or after the programme. The approach resembled a problem-based learning strategy which enabled a high degree of input from the SPAG participants thus encouraging a greater sense of ownership of the process. The purpose was to create an environment that attempted to minimise possible manifestations of alienation. Some members of the group had anticipated that the programme would be like that of a more formal ICT training programmes and expressed concern that the structure of the sessions would be somewhat anarchic. However, at the same time they also knew, from their experience within SPAG, that a structure fostering a supportive and collaborative environment was important. These issues were discussed and resolved during the first meeting with participants.

The successful introductory meeting enabled more specific and substantial discussions about the technical details of organising the sessions. From the outset, it was agreed that the process involved in planning and undertaking the sessions should be very much user-driven and therefore needed a significant input from those who were likely to come to the hands-on sessions. There was a break of some 10 weeks between the end of the first round of hands-on sessions and the start of the second. However, the participants were keen to recommence the sessions and made it clear they had priorities including database design, image processing software, such as GIMP, social networking and blogs.

The data within this chapter include quotes from participants and sections of dialogue. The latter have been included because they buttress a number of aspects included in the discussion, and illuminate critical points occurring simultaneously. Each session has been allocated a number which has been used to identify quotes from the participants and so a quote from the participant called Marge in the third session review would be identified as follows: Marge 3R or Marge 3P if it occurred in a preview. Where a unit of dialogue is included in the text, the session or interview will be identified at the start of the quoted dialogue. While much of the data was collected by recording the previews and reviews of each session, there were limited opportunities to record partial discussions within the sessions themselves and these mainly arose when I was working in close quarters with one or two participants. Where there are quotes arising from discussions within sessions these are identified with an S. Data arising from individual interviews have been identified by PI. Thus, a quote made by Ron during an interview will be tagged as Ron PI. My contributions during dialogue extracts are tagged as 'Mike'. Having outlined the structure

of the programme, the discussion will now concentrate on the motivations of the participants. This will be followed by a summary of their expectations.

7.8 Motivations

For some participants, using ICT was a critical aspect of their lives. As Steve said '*Without my computer, I would be at a loss… I don't think I could live without it now*' (Steve 1P), a sentiment supported by another participant who, when asked how she would manage without her computer, replied, '*I would be both very upset and delighted*' (Marge 1P). This uncomfortable dependency on computers was, for some participants, the primary motivation for attending the sessions. For others, the motivation lay in simply getting started with computers to enable them to support their interests, with, for example, one saying, '*I'm involved with… small charities and I use financial records so spreadsheets can be quite useful*' (Dave 1P). He also was keen to use the internet for important tasks such as online shopping. While a few participants wanted to develop their skills for personal reasons, such as promoting better communication with other family members, all had a specific purpose for developing ICT skills which was directly connected to the roles they had in organisations such as charities or in offline communities such as family. Others felt it was simply a good way to develop their skills and to make it easier to manage the administration of SPAG.

As has been mentioned, initial discussions indicated some participants were expecting a traditional approach to the sessions and were concerned about what they saw as the apparently unstructured nature of the programme. Some had low expectations of the proposed programme because of their experiences of previous hands-on courses: '*I mean, they had loads of computers, very cramped, the computers, and they're all different ones, so you never got the same computer two weeks in a row and it was quite difficult*' (Steve 1R). Another said about a Quark course '*… and I got a certificate but it didn't teach me anything to be quite honest… it didn't teach me how to make a newsletter...*' (Marge PI). Apart from developing technical skills some also thought the proposed environment would be beneficial. Although Marge said she believed there had to be an instructor since '*… the software, the actual package… doesn't make it clear what you have to do!*' (Marge 2R). She was also clear that a different approach was beneficial: '*it was a contrast to other courses… much more user-friendly I would say…*' (Marge1P).

As the programme progressed participants expressed changes in expectation both of themselves and the sessions. One participant said, '*The more you learn, the more you want to learn with this thing*' (Ron 6R). The content of the sessions also developed as the programme progressed and reflected a growing awareness within the group of the possibilities of the technology. In discussing

Google Docs, Jeannie said, *'Well, if we can get people writing… it would save a lot of time. I can see how useful it could be'* (Jeannie 4R). Towards the end of the programme, the participants felt confident enough to want to use YouTube to make a video about changes to the UK health service and their impact on the older population. The participants were, in effect, taking greater control of the process and going way beyond the scheme of work initially envisaged for the activity. Having outlined the expectations participants had for the hands-on sessions, the discussion will now shift to see whether these hopes were met. In many respects this chapter has been the most difficult to write because it attempts to articulate, by way of description and subsequent analysis, a dynamic process in which many happenings occurred at the same moment. The struggle here has been to disentangle this myriad of interconnecting and interdependent threads and to present them in a coherent narrative while trying not to lose touch with the dynamic process.[7]

7.9 Alienated Attitudes Towards the Technology: A Shared Sentiment

The participants in this setting expressed a range of negative attitudes towards ICT and, predictably, they brought their experiences and sentiments concerning the technology into the hands-on sessions. One participant explained the impact a failure to login to Facebook had on her motivation *'I have had this problem before. It makes me want to give up'* (Jeannie 7S). Another said *'I saved up and bought a computer; it was always breaking down and not working. I got really fed-up… I mean, sometimes I feel like throwing the computer out of the window'* (Marge PI).

   As the following comment from one participant indicates, these feelings can express themselves in physical symptoms.

> Today I put in my username but when I put in my password, I was 100 per cent sure I was absolutely right, it wouldn't accept it. So that makes me… *it tires me out enormously in frustration* and it didn't ask me when… I then admitted that I obviously couldn't find my password, it didn't ask me for my security word either (Ron 2R, my italics).

This quote shows that at the same moment Ron felt three interdependent things: a lack of control, frustration, and a sense that the computer should solve the problem. All three stressful experiences were expressed in a physical sense of tiredness.

   These negative moments can also lead end-users to turn inwards resulting in declarations of self-denigration, as one participant said: *'I just want to do… social networking… because I haven't got a clue… I don't know why but I just feel at such a loss when everybody else can do things that I can't do'* (Jeannie 9P). They

can also induce a sense of struggle, with the computer being seen as the enemy. As one participant said when talking about trying to use Internet Explorer to find files, *'Very difficult to find anything on it. I think I will succeed; we shall be victorious'* (Steve 5R).

At this point it could appear that the perceptions of the SPAG participants emanated from within this particular group of people or the specific context. However, evidence collected from settings described in chapters 4 and 5 indicate that the scholars and ICT professionals share similar sentiments to those of SPAG members. As one ICT professional said in discussing problems with the technology, *'the problems come when it doesn't work… I can spend hours trying to solve problems… I feel irritated but not suicidal'* (M1 Project Manager). He added that when the company's network goes down it is the most frustrating experience. In describing technologies associated with networking, one scholar said that *'the inconvenience and annoyance of having expectations of technology of bringing us together and [it] doesn't work… that drives me nuts'* (ME1 US). Another, in discussing a software problem, said, *'I was actually thinking "God, I must be doing something really stupid here"… I was really struggling'* (FE EU). Others expressed deep feelings of alienation with one commenting, *'You feel completely out of control because you think you had control but now it doesn't work, and you don't have control'* (FE SA). Another said, *'the adjective would be powerless. You wish there was something you could do but cannot figure a way out of the box'* (ME3 US). One ICT professional said, *'if you can't fix things yourself, you have to phone the support people this can be… onerous and tiresome'* (M2 Software engineer). This sentiment strongly echoes that expressed by Ron in the above quote.

This evidence underscores the view that ICT provokes a range of reactions that are remarkably consistent across the three sets of participants in this study indicating that the feelings fostered using ICT expressed by the participants in a working context covered in chapters 5 and 6 are also evident in a non-working environment. This reinforces the argument that it is possible to speak of alienation in an abstract manner existing across multiple contexts but, because of mediation, its manifestation is rooted in a specific circumstance. Therefore, investigating the specific context is important for understanding what causes alienation to come to the surface, allows it to be observed and reveals how it takes its practical form. Having looked at the commonality of sentiments shared across the three settings, the discussion will now focus on those issues directly linked to alienation as it relates to ICT and SPAG participants starting with a look at aspects of control.

7.10 Who's this Technology Designed For?

Products and processes determined by external agents were highly significant for participants in the previous two settings and revolved around outcomes and

processes as related to their work environment. In this setting however, these related more directly to specific ICT resources.

The inconsistency of available software across the machines was a problem particularly if people wanted to work together using different machines. During the early stages this did not present any significant barriers to learning because the skill level of some participants was relatively low. However, it did become a major issue towards the end of the programme when participant skill levels had increased. The variation in software available across different computers also impacted on the relationships between participants because it became a serious impediment to enhancing a collective way of working. This fed into a discussion about the group establishing its IT priorities and about how to progress these with the management of the SPC. There was a very strong desire within the group for each person to be able to undertake the work required for SPAG and there was recognition that the computer room at the SPC was a critical enabling factor. There was also a firm belief that management might resist, for funding reasons, improvements in ICT facilities. As the exchange below, from the third session review, indicates, control over resources even has implications on the choice of mouse:

> Dave: At the end I was using the ball on the mouse. It was much easier.
> Mike: Or maybe we could get another one then. Could we ask for another mouse like that?
> Jeannie: I don't know. You'd have to ask someone upstairs. It isn't my area.
> Mike: Maybe somebody could ask the folk who provide the hardware, can they provide another mouse? If that's easier to use…
> Ron: Yes. It'd be down here, wouldn't it, if it was possible to use it would be down here in this room, wouldn't it?
> Dave: They might have one locked away.

On a general level, the discussion about alienation from the technology tends to focus on the impact of computers, but for the SPAG participants the costs involved in maintaining peripherals such as printers are also of serious concern. The following conversation, during the fifth session review, reveals the anger and resentment about the cost of replacing colour cartridges:

> Jeannie: What's in here is more expensive than gold. Well, not quite. £150 worth of bloody cartridges. £150 is a bloody complete rip-off.
> Steve: Yes, because you buy the expensive ones, don't you?
> Jeannie: I've tried other ones and it's quite difficult. I really do feel like changing my printer soon.
> Marge: You get four cartridges for £130?

> Jeannie: It's five. I mean, the colour ones are about £30, £35, and the black ones are about £20.
>
> Marge: How much use do you get out of them?
>
> Jeannie: Not a lot. I've got two colour ones here and I've got three black. This'll last me three or four months and then I'll have to get some more.
>
> Marge: My thing [printer] you put the separate colours in and I seem to end up with loads and loads and loads of yellow ones.

The last comment appears to show that for these ICT users the provision of print cartridges is part of the irritating overall ICT tapestry they experience and have to cope with. Seemingly simple things, like having the correctly shaped mouse or being able to afford print cartridges, become serious impediments to the full use of ICT.

Another issue that emerged during the conversations related to their perceptions of how the software works and for whom it is designed. The following dialogue, during the fourth session (4S), indicates they consider the software to have been created for others; for those, unlike them, who know what they are doing:

> Mike: So what's this software designed for? What is this designed for?
>
> Marge: People who already know what they're doing.
>
> Mike: So… do you feel in control when you're sitting in front of the screen?
>
> Ron: Not really, no.
>
> Mike: How about you, Ron?
>
> Ron: No. No, not really, no. You feel that you're going to get there, you know, but at the moment you're not in control.
>
> Dave   We're just doing what we're told by you.
>
> Marge: And the reason we have to have an instructor is that the software, the actual package that this teaching is it doesn't make it… clear what you've got to do.

This dialogue suggests that the group saw themselves as separate from other users of ICT and far from being in control of the software they were using. The final two comments are also evidence that they saw me as separate from them. I was the one in control and an 'other' despite my attempts to create an environment designed to minimise expressions of alienation. Further, a whole set of relationships is revealed in this exchange between the creators of technology (hard and soft) and these specific end-users; between the participants and me; and the participants' own sense of self. Having looked at some of the aspects of control experienced by the SPAG members, the

discussion will now move to consider how these participants responded to this situation.

7.11 Consequences of Lack of Control

The response of SPAG participants to these, took several forms, ranging from anger in the form of abuse hurled at the computer through to fatalism with a touch of self-criticism thrown in for good measure. These themes are addressed in the following sections. Getting cross at the computer was exhibited by all participants (but is something with which many of us are familiar) but, as the dialogue below from a personal interview demonstrates, for some participants, anger and criticism of the technology was at times palpable and could be articulated quite sharply and humorously:

> Marge[PI]: Yes. I end up just shouting at the computer, which is not much help really.
> Mike: Why do you shout at the computer?
> Marge: Well, because I'm angry that I can't do what I want to do. And that's… my view is, if you want to know my honest opinion, I believe that all machines are part of a universal conspiracy against me personally. Well, and against other people but particularly against me.
> Mike: You mean out of 6.7 billion people they've got their sights on you?
> Marge: Yes, I feel like that.
> Mike: You feel like that?
> Marge: Yes. I know it's silly, but I do feel like that, yes.

This extract shows that while Marge appreciates, on an intellectual level, that it does not make sense to believe she is a personal target of computers; she nonetheless feels this to be the case. For her, even if she doesn't really believe it, this offers some explanation for the failure of machines, not the underlying relations represented by the physical presence of the computer, to meet her requirements. The adverse emotional impact of the 'machine' has been the subject of many a book or film, for example the *Terminator* franchise or Orwell's *1984*. Other participants indicated the adverse impact the technology has when expectations are not met, with one commenting, when talking about an unfulfilled task relating to emails '*Well I do send it to her, but I don't know if she's got it. There's a real problem here. This makes me cross. This is not good*' (Jeannie 5P). This desire to scream, even if silently, at an inanimate object made of plastic and metal is, in effect, a scream at a whole set of relations mediated through and embodied in the technology and over which the end-users have no control.

The irritation with the technology was manifested in the hands-on sessions in one instance and occurred during a discussion in the 5th session concerning a database containing the SPAG membership records. This database had been mentioned on a few occasions before and had been giving the SPAG officers some problems; thus, this database had its history. In the following dialogue, bold font has been used to impart the tone and volume of the exchange:

Mike: So, this is a query result, is it?

Jeannie: No, this is the actual Table. This is the whole database, and this tells you who's a member of this centre. I just want to redo some of the queries, and we want to get rid of 2008.

Mike: When you say queries, what do you mean?

Steve: **The headings.**

Mike: You mean you want to change the column headings?

Jeannie: **Yes, but they're queries, aren't they? They are called queries on the database.**

Mike: No.

Jeannie: They are.

Steve: **It doesn't matter what they're called. We want to change the headings.**

Jeannie: **Can we have a quick look? I'll just go and show you what I mean. Because if not we're talking different languages. This is the one that's got my thing in.**

Mike: Ok. [At this point a sense of moderation emerged leading to an ease of tension.]

Jeannie: Sorry, did I pick some...

Mike: No, it's not a problem. Not a problem. I mean, we might be talking about the same thing.

Although the above exchange was relatively brief, it was highly charged, with tension and frustration especially between Jeannie and Steve which was clearly linked to the problems they had previously encountered with the database. While no one shouted loudly during this exchange the voices were raised. As well as anger, other negative sentiments were linked to the technology.

Fatalism, or an attitude of resignation, was expressed by some of the participants. As one put it: '*It does take a long time and sometimes I don't get anywhere. It takes an incredibly long time… anyway there we are*' (Ron 2P). Self-criticism was a recurring theme in discussions within the sessions which were peppered with comments such as '*You don't know a lot before you sit down there. I don't*' (Ron 2R). Having looked at issues and implications concerned with a lack of control over the technology, the chapter will now consider the benefits of the hands-on sessions.

7.12 Practical Benefits of the Hands-on Sessions

The benefits of the basement sessions as described by the participants centred on a number of themes: the development of specific ICT skills; collaboration; control of the technology; the learning process; and transferable skills. Some of these benefits had not been anticipated at the start of the programme. As participants started the programme with varying levels of skills, it was not expected that all would reach the same point at the conclusion of the sessions. Consequently, it was not considered appropriate that skill levels should be measured through the application of a structured assessment device. Evidence for progress was obtained during the preview and review exchanges and therefore flowed naturally from the discussions during these periods; in effect a form of self-and-peer-assessment. As one participant said, '*Well, I made a bit more progress on spreadsheets… it's slow going because there is only one of you [ie one trainer]… but I am learning a lot*' (Dave4R).

As the following dialogue from the second session review shows, the feeling that progress was evident from early in the programme:

    Dave: I really want to press on with it.
    Tony: Yes, I'm looking forward to the next one.
    Ron: Oh yes, yes, I found it quite useful. Indeed, I have.

Later in this same discussion, Tony comments: '*I think I have done pretty well. But I've got to know more about the things you press on the keyboard*' (Tony 2R). This indicates that he understood his progress in two ways: he was developing his technical skills and his appreciation of what the technology has to offer. In talking about the design and development of databases using MS Access, one said, '*Now you have side-stepped this tutorial thing* [an online facility], *I have already learnt far more than I learnt at a previous training*' (Marge 6R). The relatively more experienced SPAG ICT users were encouraged by the programme to explore aspects of the technology they had previously ignored. As Jeannie said, '*It was the first time I'd actually really used YouTube and I was gobsmacked. My god, so much is on it, isn't it? It's so amazing!*' (Jeannie 4R).

The sessions also encouraged those, like Dave and Ron, who did not have a personal computer, to use computer facilities in other parts of Southwark: '*Yes, I spent an hour... in the library. It was brilliant*' (Tony 5P). They also signed up for free ICT courses in the borough. This sense of progress reached right over to the end of the programme when Tony told me that he now had an email address and was sending and receiving emails.[8]

The concluding task was initiated and undertaken by the group at the end of the programme focused on making a video, to be posted online, about opposing cuts in the UK health service and was planned and scripted by members of SPAG. Apart from reflecting the ethos of SPAG as a campaigning organisation, the completion of this task enhanced knowledge of the networking facilities

on the Web and employed the use of appropriate hardware and software. This activity underlines the enhanced skill levels experienced by the participants in the programme. The following sections look at benefits that are often described as intangible and opens with a look at collaboration.

7.13 Intangible Benefits

From the outset, it was evident that the group saw the success of the activity as being achieved through collective effort with, for example, Steve agreeing to help Dave use the computer facilities at a local library during the first exploratory meeting. The following dialogue, from the 6th session review, shows the high degree of support the participants gave each other:

> Jeannie: It's quite interesting when you haven't done anything before and you haven't even done any typing. To go right back to that I would find it impossible. I don't know how you do it.
> Steve: I think it just shows you how.
> Marge: I think it's fantastic, Ron.
> Tony: It's quite interesting when you get into it. It's like a book. I mean, a good book, you forget that the time's going round a bit…

In response to one of the participants saying he has to wait for the trainer to be free, another one said, '*We can always help you. Can I make a suggestion? I think he (Dave) is having great difficulty with the ball. They are much more difficult to use than the mouse*' (Steve 4R). This intervention indicates that by this time Steve wants to solve the problem, show his knowledge, help the other participants and has good observation skills. He sees the success of the other as important to him because it confirms the positive experience he is sharing.

  The supportive, sharing environment was also important to those participants who were more familiar with the technology for, as one said in talking about an environment conducive to asking questions, '*… you've got to be in a situation where you don't feel threatened at asking something, because a lot of people do… this idea that you are actually… all taking part in it (sharing) our knowledge, it is so much more productive*' (Jeannie PI). Furthermore, the collective atmosphere encouraged individual participants to see the others as people with whom they were sharing the same journey. As Dave commented, '*I think that what I'd like to do is surf the net using a mouse because like Ron, I've got to get lots of practice in*' (Dave PI). The collaborative environment also had a positive impact on my sense of my role in the programme. In the middle of one session, I thought the process was running out of steam and needed to reflect on how things were going. This led to the following exchange, during the sixth session review, indicating that the collective environment also encouraged me to feel comfortable about sharing my self-criticisms:

Mike: Shall I tell you what I thought about today?
Jeannie: So tell us.
Mike: It looked like at one point it didn't have any structure…I was
           uncertain… but looking around… I was thinking Dave is
           getting on doing what he's… he's working on his own, which
           is, like, if you think about where we started, what we
           wanted…
Jeannie: Yes.
Mike: And then you two are working together and it seems to be
           working quite ok.
Jeannie: Yes, as long as I didn't put Ron off. I keep taking over.
Mike: …there were people on machines all working away and it's…
           like the session had its own sort of structure, which I thought
           was ok.
Jeannie: Well, we've all got bits that we need help on, haven't we?
Marge: Well, I mean, I've already… this has been far more useful than
           anything else I've done really.

There are a number of things this exchange reveals. The traditional relationship between the ICT trainer and trainees has been undermined and replaced with a much more interactive, supportive relationship: a less functional, more organic relationship had emerged by this point. Secondly, it signifies that some of the 'trainees' had become trainers. Finally, it also shows the process employed during these sessions was highly regarded by the participants because it had useable practical outcomes.

In discussing the reasons why there was a strong culture of support within the sessions, one participant said, *'It's because of the idea that you started off with, that it should be for us to try and structure the course… It has drawn us closer together, that whole kind of idea of it, of us being in control really'* (Marge PI). It has already been noted that participants were intimately involved from the start in planning the length, timing and content of the sessions and took responsibility for organising the venue, producing a flyer advertising the programme and reminding participants to attend. It has also been recorded that a mutually supportive environment was evident from the very start of the programme. Apart from the one incident alluded to above, a spirit of collaboration and collective endeavour infused the sessions.

Mention has been made above of the negative consequences arising from the lack of control over the technology. The data indicates that the members of the programme sought to deal with this problem as it was manifested in three areas: the development of relationships within the group; the programme content; and control over the technology. Each of these aspects is covered in the following discussion. The following dialogue, which occurred towards the end

of the third session, indicates the development of several positive trends within the group pertinent to this issue. It shows the group was beginning to be more assertive in the activity and also reveals the growing confidence of individuals within the group both in themselves and with each other.

> Dave: Right, well, I must be making tracks. How do I turn this off? Just press the…?
>
> Mike: Well, Cerene, will you tell Dave how to turn it off?
>
> Cerene: Fat chance… Which one have you been working on? This one here?
>
> Mike: Cerene…you tell him what to do, don't you do it… See if you can remember what he is supposed to do. [Cerene shows Dave how to close down the computer.]
>
> Mike: (to everyone) Cerene has just given… a lesson… [Clapping from the others in the group] to someone on how to turn off the machine.
>
> Marge: And did he do it right?
>
> Cerene: Yes.
>
> Marge: There you go, I say.
>
> Cerene: Thank you.

The participants felt they were exerting much greater control over the hands-on sessions both in terms of skill application and content: *'I've got an idea now… about the purpose of database and how it actually works which I didn't really understand at all'* (Marge 6R). This increased confidence also led to increased assertiveness in determining content: *'I would like some help next week with looking at that wretched database… then I can get the hell out of it…'* (Jeannie 6R).

The preview and review periods were very important parts of the process and also allowed for a much wider consideration of ICT and society with SPAG members taking the lead in these discussions. In one instance, initiated and led by one of the participants, concerned a TV programme called *Inside the Virtual Anthill* about free and open source software. She concluded by saying that *'it was quite a revelation to me about what is going on… it was saying that quite a few firms are using this rather than Microsoft'* (Jeannie 4R). This opened a debate about the question of using open source in the Southwark Pensioners Centre.

7.14 Barriers

As the programme developed and participants perceived the range of possibilities available with the technology, they also began to be aware of those factors preventing the realisation of these possibilities. They became increasingly

aware of the barriers they faced with technology generally and more specifically as it related to their immediate circumstances. Consequently, they decided to approach the management of the Centre to request an update of the computer facilities. How this should be progressed formed the focus of a preview discussion in December 2010: '*We have to talk to the management about updating the software and we want it done in the way we need*' (Jeannie R11). Following a debate within the group about the best way to proceed, the consensus was that this should concern the technology they, and other users of the Centre, could control and use without impediment. The view was also expressed that this should be the same for all users of the Centre. This was a very sensitive area for the participants, and during this discussion, for the first and only time, I was asked to turn off the digital recorder. One participant later explained that she felt that enhancing the computer facilities was determined by the personality of the Centre manager when she said the current manager is approachable whereas the one before '*seemed like she wanted to control everything, felt she was doing us a favour by being there*' (Marge PI).

The request to temporarily cease recording the conversation meant that the discussion, which developed into an interesting description of and the consequences arising from the complex power relationships within the Centre determining access to the technology, did not become part of the data collection. It was a sharp reminder that while we could determine the structure and content of the sessions, understanding the technology had to include an appreciation of the impact of external power relations. Whilst outlining the limitations participants had over control of the technology, the above discussion also indicates that both change and continuity existed at the same time during the programme: change, in that participants felt they were developing greater confidence over issues such as session content and skill level as the programme progressed; and continuation in the growing recognition that there were significant aspects of the process over which they had little influence. The practical activity of participating in the course began to generate an understanding of the underlying relations that determined how they experienced ICT. Thus, the dialogue above concerning the managerial issues within the Centre emphasises a process where a sense of progression, regarding hands-on skill enhancement, existed alongside a developing appreciation of their alienation from the technology. Thus, a contradictory process could be observed: the more knowledgeable the participants became about ICT, the greater their awareness of their lack of knowledge about the technology and its underlying power relations.

The sessions had been designed to limited expressions of alienation, but as the following exchange shows, it continued to be expressed even at a late stage in the process: '*We have had a bit of a frustrating day today with machines not running properly, software behaving unpredictably… very frustrating*' (Mike R10), and old frustrations of the participants re-emerged: '*Oh for XXXX sake, what is going on here… why has that disappeared?*' (Marge S10).

7.15 Unanticipated Developments

Several positive developments referred to above had been anticipated since they mirror those found in other PAR informed activity. However, there were several unanticipated outcomes that materialised from the hands-on sessions. One was the emergence of those seeking to adopt the role of a trainer in helping with both technical issues and initiating discussions about the wider societal implications of ICT. The following dialogue is a good example of the former, and took place directly after Cerene had shown Dave how to turn off his computer:

Mike: Now, Dave, you will need to show Ron how to turn the machine off.
Ron: That's this button here, isn't it?
Dave: Click on START.
Ron: I've done that.
Dave: There we are then. After you click, go to TURN OFF COMPUTER. Click. Got that. Click….
Dave: Then you come up here.
Ron: Oh dear, oh lor! Yes, it's going off.
Mike: Dave has just given his first lesson as a trainer.
Marge: And they're all much more patient than me.

In the event, it became the accepted practice within sessions for participants to seek and offer assistance from each other.

Another pleasant surprise resulting from the sessions was that they encouraged participants to adopt a more self-reflective manner about their use of ICT. One striking example of this was Marge. During the second session preview she said, *'I shouldn't get so impatient with Ron, but he doesn't keep his eye on where the mouse is going!'* (Marge 2R). It will also be recalled from a previous section that Marge tended to be quite aggressive towards her machine. However, as the following extract from her interview shows, the programme had a beneficial impact on her behaviour both towards the machines and people.

Marge: But it has, there are a couple of things it has helped me with. One is, er, helping teach Ron how to use the machines. And I was very impatient with him and ended up shouting at him a couple of times. And because there were other people there, and you especially pointed out to me that I was, that it would be better if I was more patient, I have actually changed my way of operating. I'm quite glad of that…
Mike: Did you ever feel like hitting the machine in the SPAG sessions?
Marge: No. Well, no, I didn't actually, now you come to say that.
Mike: Did you ever feel you wanted to shout at the machine in the SPAG sessions?

Marge: Yes. Particularly when I put a memory stick in and nothing
         happened.
Mike: But did you shout?
Marge: I think I did, yes. I didn't swear. Once or twice, but nothing like
         when I'm here.
Mike: Like when you're here on your own?
Marge: Yes.

Participation in a collective, supportive, non-competitive learning environ-
ment was enabling Marge to recognise, understand and moderate her impa-
tient attitude towards technology.

A third unforeseen development was the social function the sessions began
to play, with one participant commenting, *'Apart from the learning thing, it's a
social activity and I am quite happy for it to go on forever and ever'* (Ron 10R),
a response shared by other participants, as the following dialogue illustrates:

Marge: I'll add something to that. Ron's wife died last year and I think
         this has actually given him...
Mike: Ah.
Marge: ...a sort of new lease of life, if you like, really. Yes. Well it's bound
         to, you know.
Mike: Crikey Moses.

As the last comment shows, I was astonished at this revelation for two reasons.
Firstly, I had not at all expected the programme would take on such a strong
social hue. Secondly, Marge's comments provided a much deeper insight into
the importance of the sessions for the participants than I had anticipated and
previously not understood; they had begun to fulfil a more profound social role.

7.16 Analysis

The evidence presented at the start of the chapter shows the participants'
dissatisfaction with the technology, expressed in a number of ways, and
indicates they shared the same views as the participants in the other settings.
Their responses to this dissatisfaction offered both a coping strategy for deal-
ing with the difficulties they encountered and provided an explanation for why
things will not work. On one level, with fatalism, it is something out there,
beyond one's control that creates the problem. At another level, with self-crit-
icism, the problem lies within a person, but it too is not possible to resolve.
These two contradictory manifestations of alienation reside within the same
intellectual and emotional space. The evidence therefore confirms that this
group of participants experience alienation. The questions to be addressed here
are: how does this alienation manifest itself in this specific context and to what
extent can it be ameliorated?

As noted in in previous chapters, key aspects of Marx's notion of alienation concerns the labour-capital relation and its impact on outcomes, processes, and relationships. Since in this setting there are no direct outcomes, the focus has been on issues linked to process and to consider their impact on social relationships. Evidence gathered from this setting indicates that it is possible to engage with the adverse consequences of alienation and in doing so, foster a range of countervailing impulses. The data highlights several relevant themes in this process, namely collaboration, absence of competition, taking control, and locating ICT training in the needs of the participants. Each of these themes is explored in the following analysis.

A significant element of Marx's notion of alienation is the threat of the 'other'. In the hands-on sessions it was evident that within the group dynamic there was no fear of the 'other' in the form of other participants. On the contrary, the process employed, encouraged and enabled a strong appreciation that collaboration and mutual support would be extremely beneficial for the success of the activity. Moreover, the evidence indicates that this reached beyond the SPAG members and eventually impacted on me in my role as trainer. All the participants contributed to creating a culture that valued the work of the 'other' and cultivated an intimate relationship between the individual and the group. Each participant had their own individual needs, yet these were met by the group working together as a whole. Consequently, the significant absence was any competitive environment. In some ways this echoes, but in more definite and focused manner, the supportive environment some academics mentioned when referring to scholarly networks.

The data also shows that, as the programme progressed, other objectives developed organically with the activity with session content extending well beyond learning a new range of technical skills and beginning to encompass a much wider range of subjects which then posed additional questions for the participants relating to the societal implications of ICT. The evidence presented substantiates the view that, in this specific context, the emphasis on collaboration offered a glimpse of an alternative to the fatalistic or self-denigrating positions relating to the technology and provided an avenue through which issues connected with taking control of the technology could be explored. The collective approach encouraged participants to make demands on the programme that arose directly from the activity and the way this was undertaken. Their relationship to the technology shifted as they became more aware of the nature of this relationship and as it set in train a process of creating or modifying existing relationships within the group. The data also provides insights into the shift in perspective by some participants in that they increasingly saw ICT as critical to the aims they wished to pursue rather than being something separate from them and not belonging to them. For other, more experienced users, the process helped engender a more self-reflective view and highlighted certain modes of behaviour.

However, the data also indicates that, while the issues concerning the control of the sessions were addressed by the participants, external agency influence on

the technology remained unresolved at two levels: the local level which focused on the SPC, and the global level relating to software and hardware in general. This created a contradiction based on what was wanted and expected, and what was available and could be delivered both locally and globally. The ongoing discussions related to the technical resources for the group and the difficulties encountered in seeking to ameliorate these emphasise the overarching level of alienation within which this group activity took place. In the first instance, trying to improve the computer facilities in the Centre, meant engaging with a management that determined the allocation of a budget (which was determined elsewhere) and accountable ultimately not to the users but to another 'other', higher body. The second, technical problem, over which the participants had no control whatsoever and often mentioned in the sessions, concerned the creation and development of the software itself. Here the 'other' had complete control. This tension also brought into relief a much wider question about external constraints in general as was indicated by the discussions on free and open-source software.

The data also shows that this contradiction had several profound impacts. The experiences within the group can be described as being of both change and continuity. Change can be identified as the possibility of engaging in a form of practice that challenges manifestations of alienation even if that challenge is restricted to a specific time and place. Continuity meant the programme could not step out of the general alienated environment within which life is lived. The second consequence is that the process of change was not linear. When difficulties arose in later parts of the programme, they provoked a reference back to alienated attitudes evident before and at the start of the process. The final problem with the programme was that while it was successful in making participants aware of issues of alienation and ICT, and was able to address some of these issues at a very concrete and local level, it was not able to overcome the wider context which fosters alienation. This has implications for discussions concerning autonomy and ICT.

This chapter has been concerned with applying Marx's theory of alienation in a non-work situation and has sought to test if the theory has any value in constructing and carrying through a research programme in such a context. It has also been concerned with exploring what possible strategies or coping mechanisms people can utilise to manage the problems associated with alienation. An attempt was made to offset these negative experiences by constructing, by using PAR, an environment within which the alienation often associated with ICT could be identified and challenged. The evidence and the subsequent analysis have shown that while it is possible to engage in activity that can confront alienation in a specific and concrete context, there are more fundamental problems concerning the nature of ICT that cannot be resolved by these engagements alone.

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

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 the 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 leaning 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).

Notes

1 This term appears to have its genesis in sports and refers to players sitting on the bench waiting to be called into play. 'Beached' is another term used in this context and is common in consultancy.

2 Increasingly, industries are taking on staff on 'zero-hours' contracts – that is, where people agree to be available for work as and when required, but have no guaranteed hours or times of work. Zero-hours contracts effectively provide employers with a pool of people who are 'on-call' and can be used when the need arises. For more information see http://www.acas.org.uk/index.aspx?articleid=3886.

3 A good example of this process is the recent research contracts awarded to the CCSR at De Montfort University, Leicester and the University of Twente in the Netherlands.

4 For example, as part of an examination of socially responsible investment Rodríguez and Zaballos (2013) detail that funds allocated for research in Spain in 2012 had, compared to 2009, been cut by 34%. These two dominant features – cuts in funding and increased competition – Fang et al. argue, have had an adverse impact on the quality of research and play an important role in the significant increase in retractions of published papers (Fang et al. 2012).

5 This touches upon the debate concerning empiricism in research, including qualitative research and publishing. Recent contributions to this debate can be found in Stahl (2013), Walsham (2013).

6 The pressure to publish has also led to an increase in the number of journal article retractions because of fraudulent data or resubmission of existing work in another guise. (More information on retractions is available from: http://retractionwatch.wordpress.com).

7 In many respects this touches upon the comments Marx made about the nature of inquiry and subsequent presentation of that inquiry (Kolstad 2014).

8 I was subsequently told by one of the participants that Tony was motivated by the programme to buy his own laptop. Unfortunately, he died in 2016, aged 95.

Bibliography

Adamson, Bob. 2013. Appropriating Higher Education from Neo-Liberalism. *Comparative Education Bulletin* 15 (1): 1–12.

Althusser, Louis. 2005. *For Marx*. London: Verso.

Archer, Margaret S. 2010. Routine, Reflexivity, and Realism. *Sociological Theory* 28 (3): 272–303.

Archibald, W.P. 2009a. Globalization, Downsizing and Insecurity: Do We Need to Upgrade Marx's Theory of Alienation? *Critical Sociology* 35 (3): 319–342.

———. 2009b. Marx, Globalization and Alienation: Received and Underappreciated Wisdoms. *Critical Sociology* 35 (2): 151–174.

Armstrong, Lloyd. 2016. *Barriers to Innovation and Change in Higher Education*. TIAA-CREF Institute. Last accessed 11 November 2019 from https://pdfs.semanticscholar.org/d513/141cb6af397d22a68d99fa9264875f888312.pdf

Bamberger, Annette, Morris, P. and Yemini, M. 2019. Neoliberalism, Internationalisation and HE: Connections, Contradictions and Alternatives. *Discourse: Studies in the Cultural Politics of Education* 40 (2): 203–216.

Barnett, R. 1994. *The Limits of Competence: Knowledge, Education and Society*. Buckingham: Society for Research into Higher Education SRHE and The Open University Press.

Beradi, Franco. 2009. *The Soul at Work: From Alienation to Autonomy*. South Pasadena, CA: Semiotext(e).

Berners-Lee, Tim. 2017. I invented the web. Here are three things we need to change to save it. *The Guardian*. Last accessed 12 June 2018 from https://www.theguardian.com/technology/2017/mar/11/tim-berners-lee-web-inventor-save-internet.

Berners-Lee, Tim (@timberners_lee). 2018. This is a serious moment for the web's future… etc Twitter 1/9 March

Bhaskar, Roy. 1991. *Philosophy and the Idea of Freedom*. Oxford: Blackwell.

———. 1998. *The Possibility of Naturalism*: *A Philosophical Critique of the Contemporary Human Sciences*. London: Routledge.

Bhaskar, Roy and Callinicos, A. 2003. Marxism and Critical Realism, *Journal of Critical Realism* 1 (2): 89–114.

Blackledge, Paul. 2012. In Perspective: John Holloway. *International Socialism* 136: 89–109.

Blauner, Robert. 1964. *Alienation and Freedom: The Factory Worker and His Industry*. Chicago, IL: University of Chicago Press.

Bothwell, Ellie. 2018. Survey Finds Global Boom in Private Higher Education Enrolments. Last accessed 3 April 2019 from https://www.insidehighered.com/news/2018/03/08/survey-finds-global-boom-private-higher-education-enrollments

Braverman, Harry. 1974. *Labor and Monopoly Capital*. New York: Monthly Review Press.

Brennan, John. 2007. The Academic Profession and Increasing Expectations of Relevance. In *Key Challenges to the Academic* Profession *UNESCO Forum on Higher Education Research and Knowledge*, edited by M. Kogan and U. Teichler, 9–28. Paris: INCHER.

British Computer Society, Chartered Institute of IT Professionals. 2013. Last accessed 2 May, 2013 from https://www.bcs.org/membership/become-a-member/membership-grades-and-fees

Brøgger, Katja. 2019. *Governing through Standards: The Faceless Masters of Higher Education: The Bologna Process, the EU and the Open Method of Coordination*. Cham: Springer International Publishing.

Brook, P. 2009. The Alienated Heart: Hochschild's 'Emotional Labour' Thesis and the Anticapitalist Politics of Alienation. *Capital & Class* 33 (2): 7–31.

Brydon-Miller, M., Greenwood, D. and Maguire, P. 2003. Why Action Research? *Action Research* 1 (1): 9–28.

Bynum, Terrell Ward and Rogerson, S. 2004. *Computer Ethics and Professional Responsibility*. Malden, MA: Blackwell Publishing Limited.

Byrne, Kevin and Trushell, J. 2013. Education Undergraduates and ICT-Enhanced Academic Dishonesty: A Moral Panic? *British Journal of Educational Technology* 44 (1): 6–19.

Callinicos, Alex. 1985. *Marxism and Philosophy* Oxford: Oxford Paperbacks.

———. 1995. *Theories and Narratives: Reflections on the Philosophy of History*. Cambridge: Polity Press.

———. 2004. *Making History: Agency, Structure and Change in Social Theory*. Leiden: Brill.

———. 2006. *Universities in a Neoliberal World*. London: Bookmarks Publications.

———. 2012 [1983]. *The Revolutionary Ideas of Karl Marx*. Chicago, IL: Haymarket Books.

Camfield, David. 2007. The Multitude and the Kangaroo: A Critique of Hardt and Negri's Theory of Immaterial Labour. *Historical Materialism* 15 (2): 21–52.

Canada's Association of Information Technology Professionals. 2009 Definition of a Professional. Last accessed 30 June 2019 from http://www.cips.ca/professional

Carchedi, G. 2014. Old Wine, New Bottles and the Internet. *Work Organisation, Labour and Globalisation* 8 (1): 69–87.

Cherry, Libby. 2018. Revealed: The 'Hidden Casualisation' of University Staff. *Cherwell*. Last accessed 10 February 2019 from https://cherwell .org/2018/11/23/revealed-the-hidden-casualisation-of-university-staff

Chetty, Denzil. 2013. Transitioning to a Technologically-Mediated Education Environment: Some Preliminary Thoughts from the College of Human Sciences at the University of South Africa. *International Journal of Science Commerce and Humanities* 1 (5): 291–302.

Clerc, Isabelle and Kels, P. 2013. Coping with Career Boundaries in Masculine Professions: Career Politics of Female Professionals in the ICT and Energy Supplier Industries in Switzerland. *Gender, Work & Organization* 20 (2): 197–210.

Coles, Thomas. 2012. Body Shopping: A Flexible Approach to IT Staffing. TechRadar. Last accessed 28 February 2020 from http://www.techradar .com/news/world-of-tech/roundup/body-shopping-a-flexible-approach -to-it-staffing-1098406

Costas, Jana and Fleming, P. 2009. Beyond Dis-Identification: A Discursive Approach to Self-Alienation in Contemporary Organizations. *Human Relations* 62 (3): 353–378.

Courtney, Kathy. 2013. Adapting Higher Education through Changes in Academic Work. *Higher Education Quarterly* 67 (1): 40–55.

Cruess, Richard L., Cruess, S.R. and Johnston, S.E. 2000. Professionalism: An Ideal to be Sustained. *Lancet* 356 (9224): 156–159.

Cummings, William K. and Finkelstein, M.J. 2012. Declining Institutional Loyalty. In *Scholars in the Changing American Academy: New Contexts, New Rules and New Roles*, edited by W.K. Cummings and M.J. Finkelstein, 131–140. Dordrecht: Springer.

Dice. 2018. Diversity and Inclusion Report 2018: *Dice Insight*. Last accessed 25 March 2019 from https://techhub.dice.com/2018-DI-Report-Resource Library.html

Dickey, Michele. 2004. The Impact of Weblogs (Blogs) on Student Perceptions of Isolation and Alienation in a Web-Based Distance-Learning Environment. *Open Learning* 19 (3): 279–291.

Eagleton, Terry. 1985. Capitalism, Modernism and Postmodernism. *New Left Review* 152 (1985): 60–73.

Edgell, Stephen. 2012. *The Sociology of Work: Continuity and Change in Paid and Unpaid Work*. London: Sage.

Engels, Friedrich. 1987 [1845]. *The Condition of the Working Class in England*. UK: Penguin.

Engels, Friedrich and Marx, K. 1941. Ludwig Feuerbach & the Outcome of Classical German Philosophy. Last accessed 10 January 2019 from https://www.marxists.org/archive/marx/works/download/Marx_Ludwig _Feurbach_and_the_End_of_German_Classical_Philosop.pdf

European Commission. 2018a. Increase in Gender Gap in the Digital Sector – Study on Women in the Digital Age. Digital Single Market. Last accessed

3 June 2019 from https://ec.europa.eu/digital-single-market/en/news /increase-gender-gap-digital-sector-study-women-digital-age

European Commission. 2018b. *Silver Economy Study: How to Stimulate the Economy by Hundreds of Millions of Euros Per Year*. Last accessed 10 April 2019 from https://ec.europa.eu/digital-single-market/en/news/silver -economy-study-how-stimulate-economy-hundreds-millions-euros-year.

European Commission. 2020. *Funding and Tender Opportunities*. Last accessed 10 March 2020 from https://ec.europa.eu/info/funding-tenders/opportunities /portal/screen/programmes/h2020

Eve, M.P. 2014. *Open Access and the Humanities*. Cambridge University Press.

Fabricatore, Carlo, Darinka, R., Lopez, X., Grasso-Cladera, A. and Salas, C.E. 2019. When Technology Cares for People with Dementia: A Critical Review using Neuropsychological Rehabilitation as a Conceptual Framework. *Neuropsychological Rehabilitation* 1–40. DOI: 10.1080/09602011.2019.1589532

Farokhmanesh, Megan. 2019. At Riot, the Walkout was Just the Beginning. *The Verge*. Last accessed 25 June 2019 from https://www.theverge .com/2019/5/23/18629481/riot-walkout-company-policy-protests-forced -arbitration-employee-petition-directors

Flick, Uwe. 2018. *An Introduction to Qualitative Research*. London: Sage.

Forsey, M. 2013. Interviewing Individuals. In *Handbook of Qualitative Research in Education*, edited by A. Jones and S.D. Edward, 364–376. Northampton, MA: Elgar Publishing.

Fournier, Bonnie, Mill, J., Kipp, W. and Walusimbi, M. 2008. Discovering Voice: A Participatory Action Research Study with Nurses in Uganda. *International Journal of Qualitative Methodology* 6 (2): 1–19.

Fredman, Nick and Doughney, J. 2012. Academic Dissatisfaction, Managerial Change and Neo-Liberalism. *Higher Education* 64 (1): 41–58.

Fuchs, Christian. 2019a. Beyond Big Data Capitalism, Towards Dialectical Digital Modernity: Reflections on David Chandler's Chapter. In *Digital Objects, Digital Subjects: Interdisciplinary Perspectives on Capitalism, Labour and Politics in the Age of Big Data,* edited by D. Chandler and C. Fuchs. London: University of Westminster Press.

———. 2019b. Revisiting the Althusser/E.P. Thompson-Controversy: Towards a Marxist Theory of Communication. *Communication and the Public* 4 (1): 3–20.

Fuchs, Christian and Sevignani, S. 2013. What is Digital Labour? What is Digital Work? What's their Difference? and Why do these Questions Matter for Understanding Social Media? *tripleC: Communication, Capitalism & Critique* 11 (2): 237–293.

Fujitsu. 2019. Fujitsu Wins New EUR 60 Million Contract to Drive Industrialisation and Expansion for Credit Management Services Leader Lowell. Last accessed 21 June 2019 from https://www.fujitsu.com/uk/news/pr/2018/fs -20181011.html

Furusten, Staffan. 2013. Commercialized Professionalism on the Field of Management Consulting. *Journal of Organizational Change Management* 26 (2): 265–285.

Gartner. 2020. Gartner Says Global IT Spending to Reach $3.9 Trillion in 2020. Last accessed 15 January 2020 from https://www.gartner.com/en/newsroom/press-releases/2020-01-15-gartner-says-global-it-spending-to-reach-3point9-trillion-in-2020

Geras, Norman. 1987. Post-Marxism? *New Left Review* 163 (1): 40–82.

Gibbs, Paul. 2019. Why Academics Should Have a Duty of Truth Telling in an Epoch of Post-Truth. *Higher Education*: 78 (3): 501–510.

Giroux, Henry A. 2019. Beyond the Limits of Radical Educational Reform: Toward a Critical Theory of Education. *Journal of Curriculum Theorizing* 2 (1).

GlobalAgeingtimes. 2019. Asia Pacific's Ageing Market Potential to Reach US$3.3 Trillion by 2020. Last accessed 15 May 2020 from http://www.globalagingtimes.com/aging/asia-pacifics-ageing-market-potential-to-reach-us3-3-trillion-by-2020/18772

Global Coalition on Aging. 2019. *The Rise of the Silver Economy*. Last accessed 15 April 2019 from https://globalcoalitiononaging.com/2018/05/29/the-rise-of-the-silver-economy

Goodfellow, Robin. 2013. Scholarly, Digital, Open: An Impossible Triangle? *Research in Learning Technology* 21 (0).

Goodman-Delahunty, Jane and Walker, B. 2010. Academic Life: An Interpersonal Dimension. In *An Academic Life: A Handbook for New Academics* edited by R.H. Cantwell and J.S. Scevak, 160–172. Victoria: Acer Press.

Guba, Egon G. and Lincoln, Y.S. 1994. Competing Paradigms in Qualitative Research. *Handbook of Qualitative Research* 2 edited by N.K. Denzin and Y.S. Lincoln, 105–117. Thousand Oaks, CA: Sage Publications.

Halffman, Willem and Radder, H. 2015. The Academic Manifesto: From an Occupied to a Public University. *Minerva* 53 (2): 165–187.

Hall, Richard. 2018a. *The Alienated Academic: The Struggle for Autonomy Inside the University*. Cham: Palgrave Macmillan.

———. 2018b. On the Alienation of Academic Labour and the Possibilities for Mass Intellectuality. *tripleC: Communication, Capitalism & Critique*. 16 (1): 97–113.

Hall, Richard and Winn, J. 2010. *The Relationships between Technology and Open Education in the Development of a Resilient Higher Education*. Open Education Conference, Barcelona, 2010. Last accessed 3 March 2020 from https://core.ac.uk/download/pdf/9627484.pdf

Hall, Sam and Weale, S. 2019. Universities Spending Millions on Marketing to Attract Students. *The Guardian*. Last accessed 3 March 2020 from https://www.theguardian.com/education/2019/apr/02/universities-spending-millions-on-marketing-to-attract-students

Hampe, Michael. 2013. Science on the Market: What does Competition do to Research? *Angewandte Chemie* International Edition 52 (24): 6550–6551.

Hardt, Michael and Antonio Negri. 2001. *Empire*. Harvard, MA: Harvard University Press.

———. 2005. *Multitude: War and Democracy in the Age of Empire* London: Penguin.

Harman, Chris. 1983. Philosophy and Revolution *International Socialism Journal* 2 (21): 58–87. Last accessed 10 October 2018 from https://www.marxists.org/archive/harman/1983/xx/phil-rev.html

———. 2010. The Emperor has no Clothes *International Socialism Journal* (2): 125. Last accessed 3 March 2020 from https://www.marxists.org/archive/harman/2010/xx/emperor.htm

Harvey, David. 2014. Alienation and Urban Life. In *Crisis-Scapes: Athens and Beyond* edited by J. Brekke, D. Dalakoglou, C. Filippidis and A. Vradis, 195–203.

———. 2018. Universal Alienation. *Journal for Cultural Research* 22 (2): 137–150.

Harvey, David L., Safford Harvey, E., Warner, L.G. and Smith, L. 1980. The Problem of Reification. *Current Perspectives in Social Theory* 1: 193–233.

Harvey, David L., Warner, L.G., Smith, L. and Safford Harvey, E. 1983. Critical Analysis of Seeman's Concept of Alienation. *Humboldt Journal of Social Relations:* 16–52.

Healy, Mike and Wilkowska, I. 2017. Marx, Alienation and the Denial of Dignity of Work. In *Dignity and the Organization* edited by M. Kostera, and M. Pirson*,* 99–124. London: Palgrave Macmillan.

Heijstra, Thamar M. and Rafnsdóttir, L.G. 2010. The Internet and Academics' Workload and Work–Family Balance. *The Internet and Higher Education* 13 (3): 158–163.

Hochschild, Arlie Russell. 2003. *The Managed Heart: Commercialization of Human Feeling*. Berkeley, CA: University of California Press.

Holloway, John. 1992. Crisis, Fetishism, Class Composition. In *Open Marxism Volume II Theory and Practice*, edited by W. Bonefield, R. Gunn and K. Psychopedis, Vol. 2, 145–169. London: Pluto Press.

———. 2002. *Changing the World without Taking Power*. London: Pluto Press.

———. 2010. *Crack Capitalism.* London: Pluto Press.

———. 2011. *Negative and Positive Autonomism*. Last accessed 12 June 2015 from http://www.johnholloway.com.mx/2011/07/30/negative-and-positive-autonomism

———. 2014. *Cracking Capitalism vs. the State Option*. Last accessed 18 October from, http://roarmag.org/2014/09/john-holloway-cracking-capitalism-vs-the-state-option

IDC. 2018. IDC – Global ICT Spending – Forecast 2018–2022. Last accessed 14 March 2019 from https://www.idc.com/promo/global-ict-spending/forecast

Imrie, Rob. 2009. The Knowledge Business in Academic Planning Research. In *Ethics and Planning Research* edited by F. Lo Piccolo and H. Thomas, 71–90. Farnham: Ashgate.

Inseit. 2017. *Call for Proposals: CEPE-ETHICOMP 2017*. Last accessed 10 March 2020 from https://inseit.net/news/17.

Ioannidis, John P.A., Klavans, R. and Boyack, K.W. 2018. Thousands of Scientists Publish a Paper Every Five Days. *Nature* 561: 167–169. Last accessed 12 October 2018 from https://www.nature.com/articles/d41586 -018-06185-8

Isberto, Michael. 2018. *What is the Environmental Impact of a Data Center*? Last accessed 6 March 2020 from https://www.colocationamerica.com/blog/data -center-environmental-impacts

Jaeggi, Rahel. 2014. *Alienation*. New York: Columbia University Press.

Jandrić, Petar and Hayes, S. 2019. The Postdigital Challenge of Redefining Academic Publishing from the Margins. *Learning, Media and Technology* 44 (3): 381–393.

Jerejian, Ailsa C.M., Reid, C. and Rees, C.S. 2013. The Contribution of Email Volume, Email Management Strategies and Propensity to Worry in Predicting Email Stress among Academics. *Computers in Human Behavior* 29 (3): 991–996.

Jick, T.D. 1979. Mixing Qualitative and Quantitative Methods: Triangulation in Action. *Administrative Science Quarterly* 24 (4): 602–611.

Johnson, R., Watkinson, A. and Mabe, M. 2018. *The STM Report. An Overview of Scientific and Scholarly Publishing*. The Hague: International Association of Scientific, Technical and Medical Publishers.

Jones, G.A. 2013. The Horizontal and Vertical Fragmentation of Academic Work and the Challenge for Academic Governance and Leadership. *Asia Pacific Education Review* 14 (1): 75–83.

Kaiser, J. 2010. Free Journals Grow Amid Ongoing Debate. *Science* 329 (5994): 896–898.

Kingkade, Tyler. 2017. 9 Reasons Why Being an Adjunct Faculty Member is Terrible. Last accessed 14 May 2020 from https://www.huffpost.com/entry /adjunct-faculty_n_4255139.

Kinman, Gail. 2019. Effort-Reward Imbalance in Academic Employees: Examining Different Reward Systems. *International Journal of Stress Management* 26 (2): 184–192.

Know the Chain. 2016. *Resource and Action Guide for ICT Companies*. San Francisco: KnowTheChain.

Kogan, Maurice and Teichler U. 2007. Key Challenges to the Academic Profession and its Interface with Management: Some Introductory Thoughts. In *Key Challenges to the Academic* Profession *UNESCO Forum on Higher Education Research and Knowledge,* edited by M. Kogan and U. Teichler. Paris: INCHER. Last accessed 15 May 2020 from https://unesdoc .unesco.org/ark:/48223/pf0000152928

Kolstad, Arnulf. 2014. Qualitative Or Quantitative Method – A Dead End in the Method Discussion. *Modern Social Science Journal* 1: 1–22.

Kostakis, Vasilis and Stavroulakis, S. 2013. The Parody of the Commons. *tripleC: Communication, Capitalism & Critique Open Access Journal for a Global Sustainable Information Society* 11 (2): 412–424.

Kuner, Christopher, Cate, F.H., Millard, C. and Svantesson, D.J.B. 2013. PRISM and Privacy: Will this Change Everything? *International Data Privacy Law* 3 (4): 217–219.

Kuo, Lily. 2019. Working 9 to 9: Chinese Tech Workers Push Back Against Long Hours. *The Guardian*, Last accessed 10 May 2019 from https://www.theguardian.com/world/2019/apr/15/china-tech-employees-push-back-against-long-hours-996-alibaba-huawei.

Labriola, A. 2005. *Essays on the Materialist Conception of History*, translated: C.H. Kerr Cosimo Classics.

Langman, Lauren and Maureen Ryan. 2009. Capitalism and the Carnival Character: The Escape from Reality. *Critical Sociology* 35 (4): 471–492.

Lee, Shyh-Hwang. 2010. Using Fuzzy AHP to Develop Intellectual Capital Evaluation Model for Assessing their Performance Contribution in a University. *Expert Systems with Applications* 37 (7): 4941–4947.

Levy, Daniel C. 2018. The Vanishing Public Monopoly. *International Higher Education* 94: 24–25.

Lorenz, Chris. 2012. If You're so Smart, Why are You Under Surveillance? Universities, Neoliberalism, and New Public Management. *Critical Inquiry* 38 (3): 599–629.

Lukács, György. 1971. *History and Class Consciousness* London: Merlin Press.

Macfarlane, Bruce. 2004. *Teaching with Integrity: The Ethics of Higher Education Practice*. Abingdon: Routledge.

Maciąg, Justyna. 2019. *Lean Culture in Higher Education Towards Continuous Improvement*. Cham: Palgrave Macmillan.

Mann, Sarah J. 2001. Alternative Perspectives on the Student Experience: Alienation and Engagement. *Studies in Higher Education* 26 (1): 7–19.

Marx, Karl. 1981. *Capital, Volume 3*. Trans. D. Fernbach. Harmondsworth: Penguin.

——. 1970a. *Capital: A Critique of Political Economy, Vol. 1*, Trans. from the 3rd German Edition, Ed. S. Moore and E. Aveling. London: Lawrence & Wishart.

——. 1970b. *Marx. Economic and Philosophic Manuscripts of 1844*. Trans. Martin Milligan edited D.J. Struik. London: Lawrence & Wishart.

——. 1973a. *Grundrisse: Foundation of the Critique of Political Economy*. Trans. M. Nicolaus. Harmondsworth: Penguin. Last accessed 6 March 2020 from https://www.marxists.org/archive/marx/works/download/pdf/grundrisse.pdf.

——. 1973b. *The Revolutions of 1848: Political Writings Volume 1*, edited by D. Fernbach. Harmondsworth: Penguin Books.

Marx, Karl and Frederick Engels. 1970. *The German Ideology* edited C.J. Arthur London: Lawrence & Wishart.

McGettigan, Andrew. 2014. What is the Future for University Funding in England? *The Observer*. Last accessed 20 May 2016 from https://www.theguardian.com/education/2014/oct/12/what-is-future-for-university-funding-england.

McGuigan, Jim. 2010. Creative Labour, Cultural Work and Individualisation. *International Journal of Cultural Policy* 16 (3): 323–335.

McKenna, Tony. 2013. John Molyneux and the Question of Art. *Critique* 41 (1): 93–106.

McKetin, Rebecca. 2013. The Brave New World of Open Access. *Drug and Alcohol Review* 32 (1): 1–2.

Mészáros, István. 1970. *Marx's Theory of Alienation*. London: Merlin Press. Last accessed 20 May 2016 from https://www.marxists.org/archive/meszaros/works/alien

Mills, C. W. 1951. *White Collar: The American Middle Classes*. New York: Oxford University Press.

Mingers, John. 2004. Re-Establishing the Real: Critical Realism and Information Systems. In *Social Theory and Philosophy for Information Systems*, edited by J. Mingers and L. Willcocks, 372–406. Chicester: John Wiley.

Misra, Joya, Lundquist, J.H. and Templer, A. 2012. Gender, Work Time, and Care Responsibilities Among Faculty. *Sociological Forum* 27 (2): 300–323.

Molyneux, John. 1999. Art, Alienation and Capitalism: A Reply to Chris Nineham. *International Socialism Journal* 2, (84): 133–142.

———. 1998. The Legitimacy of Modern Art. *International Socialism Journal* 2 (80): 71–102.

Mudu, Pierpaolo. 2009. Where is Hardt and Negri's Multitude? Real Networks in Open Spaces. *ACME: An International E-Journal for Critical Geographies* 8 (2): 211–244.

Musselin, Christine. 2013. Redefinition of the Relationships between Academics and their University. *Higher Education* 65 (1): 25–37.

———. 2007. The Transformation of Academic Work: Facts and Analysis. Research & Occasional Paper Series: CSHE. 4.07. Last accessed 19 May 2020 from https://cshe.berkeley.edu/sites/default/files/publications/rop.musselin.4.07.pdf

Musto, Marcello. 2010. Revisiting Marx's Concept of Alienation. *Socialism and Democracy* 24 (3): 79–101.

Myers, Michael D. and Newman, M. 2007. The Qualitative Interview in IS Research: Examining the Craft. *Information and Organization* 17 (1): 2–26.

Nineham, Chris. 1999. Art and Alienation: A Reply to John Molyneux. *International Socialism Journal* 2 (82): 75–81.

OECD. 2012. ICT Skills and Employment. Last accessed 5 May 2013 from https://www.oecd-ilibrary.org/science-and-technology/ict-skills-and-employment_5k994f3prlr5-en

Peekhaus, Wilhelm. 2012. The Enclosure and Alienation of Academic Publishing: Lessons for the Professoriate. *tripleC: Communication, Capitalism & Critique.* 10 (2): 577–599.

Pellegrin-Boucher, Estelle, Le Roy, F. and Gurău, C. 2013. Coopetitive Strategies in the ICT Sector: Typology and Stability. *Technology Analysis & Strategic Management* 25 (1): 71–89.

Phelps, Renata, Hase, S. and Ellis, A. 2005. Competency, Capability, Complexity and Computers: Exploring a New Model for Conceptualising End-user Computer Education. *British Journal of Educational Technology* 36 (1): 67–84.

Pittenger, L.M., Perelli, S. and Somers, T. 2012. *IT Professionals: Maximizing Engagement in the Rapidly Changing Business Environment.* InternationalTechnology Management Conference (ITMC), 2012. Piscataway, NJ: IEEE

Polanyi, Michael. 1956. Passion and Controversy in Science. *The Lancet* 267 (6929): 921–925.

Porter, Sam. 2002. Critical Realist Ethnography. In *Qualitative Research in Action* edited by T. May, 53–72. London: Sage Publications.

Preston, Susan and Aslett, J. 2014. Resisting Neoliberalism from within the Academy: Subversion through an Activist Pedagogy. *Social Work Education* 33 (4): 502–518.

Public Sector People Managers' Association. 2013. Tupe Did Not Apply To Short-Term Contracts. *Public Sector People Managers' Association News.* Last accessed 17 May 2013 from http://www.ppma.org.uk/ppma-news/tupe-did-not-apply-to-short-term-contract

Raaper, R. (2018). 'Peacekeepers' and 'Machine Factories': Tracing Graduate Teaching Assistant Subjectivity in a Neoliberalised University. *British Journal of Sociology of Education* 39 (4): 421–435.

Ramos, Eduardo and Joia, L.A. 2013. An Investigation into Turn-Away among Information Technology Professionals in Brazil. *Journal of High Technology Management Research* 24 (1): 30–41.

Rasmussen, B. and Johansen, B. 2004. Trick Or Treat? Autonomy as Control in Knowledge Work. In *Management, Labour Process and Sofware Development*: *Reality Bytes* edited by R. Barrett, 100–121. Abingdon: Routledge.

Rayce, Signe L.B., Holstein, B.E. and Kreiner, S. 2009. Aspects of Alienation and Symptom Load among Adolescents. *The European Journal of Public Health* 19 (1): 79–84.

RELX Group. 2019. Annual Reports and Financial Statements. Last accessed 10 March 2020 from https://www.relx.com/~/media/Files/R/RELX-Group/documents/reports/annual-reports/2019-annual-report.pdf.

Righi, Valeria, Sayago, S. and Blat, J. 2017. When We Talk about Older People in HCI, Who are we Talking about? Towards a 'Turn to Community' in the Design of Technologies for a Growing Ageing Population. *International Journal of Human-Computer Studies* 108: 15–31.

Rikowski, Glenn. 2012. Life in the Higher Sausage Factory. *Guest Lecture to the Teacher Education Research Group, Cass School of Education and Communities, University of East London. Last accessed 10 May 2015 from https://www.researchgate.net/publication/309465180_Life_in_the_Higher _Sausage_Factory

Roberts, Michael. 2019. Michael Roberts Blog. Last accessed 11 March 2019 from https://thenextrecession.wordpress.com

Rokach, Lior. 2012. Applying the Publication Power Approach to Artificial Intelligence Journals. *Journal of the American Society for Information Science and Technology* 63 (4): 777–795.

Rodríguez, A.B. and Zaballos, J.M.L. 2013. Funding Research, Development and Innovation in Spain Via Socially Responsible Investing. *Aestimatio: The IEB International Journal of Finance* (6): 136–145.

Rotter, J. B. 1954. *Social Learning and Clinical Psychology*. Englewood Cliffs, NJ: Prentice-Hall.

Saunders, Daniel B. and G. B. Ramirez. 2017. Resisting the Neoliberalization of Higher Education: A Challenge to Commonsensical Understandings of Commodities and Consumption. *Cultural Studies ↔ Critical Methodologies* 17 (3): 189–196.

Sayers, Sean. 2011. *Marx and Alienation: Essays on Hegelian Themes*. New York: Palgrave Macmillan.

Schmidt, Vivien A. 2018. Ideas and the Rise of Neoliberalism in Europe. *The SAGE Handbook of Neoliberalism* edited by D. Cahill, M. Cooper, M. Konings and D. Primrose, 69–82. London: Sage.

Seeman, Melvin. 1959. On the Meaning of Alienation. *American Sociological Review* 24 (6): 783–791.

———. 1972. The Signals of '68: Alienation in Pre-Crisis France. *American Sociological Review* 37 (4): 385–402.

———. 1991. Alienation and Anomie. In *Measures of Personality and Social Psychology Attitudes* edited by F.M. Andrews, J.P. Robinson, P.R. Shaver, and L.S. Wrightsman, 290–366. San Diego, CA: Academic Press.

Sevignani, Sebastian. 2015. *Privacy and Capitalism in the Age of Social Media* New York: Routledge.

Shantz, Amanda, Alfes, K., Bailey, C. and Soane, E. 2015. Drivers and Outcomes of Work Alienation: Reviving a Concept. *Journal of Management Inquiry* 24 (4): 382–393.

Silver, Daniel. 2019. Alienation in a Four Factor World. *Journal for the Theory of Social Behaviour* 49 (1): 84–105.

Smith, Adam. 1863 [1776]. *An Inquiry into the Nature and Causes of the Wealth of Nations*. Edinburgh: Adam and Charles Black.

Smithson, Janet. 2008. Focus Groups. *The Sage Handbook of Social Research Methods*, edited by P. Alasuutari, L. Bickman and J. Brannen, 357–370. London: Sage.

Sparling, Robert. 2012. Theory and Praxis: Simone Weil and Marx on the Dignity of Labor. *The Review of Politics* 74 (1): 87–107.

Stahl, Bernd Carsten. 2013. Interpretive Accounts and Fairy Tales: A Critical Polemic Against the Empiricist Bias in Interpretive IS Research. *European Journal of Information Systems* 23 (1): 1–11.

Stanier, James. 2019. *The Rebellion Against China's 996 Culture*. Last accessed 10 March 2020 from https://www.theengineeringmanager.com/current-affairs/the-rebellion-against-chinas-996-culture

Statt, Nick. 2018. Game Developers Look to Unions to Fix the Industry's Exploitative Workplace Culture. *The Verge*. Last accessed 17 June 2019 https://www.theverge.com/2018/3/23/17156472/game-developers-unionization-exploitative-toxic-workplace-culture-gdc-2018

Stavropoulou, Charitini, Somai, M. and Ioannidis, J.P.A. 2019. Most UK Scientists Who Publish Extremely Highly-Cited Papers do Not Secure Funding from Major Public and Charity Funders: A Descriptive Analysis. *PloS One* 14 (2).

Strauss, Anselm and Corbin, J. 1990. *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. London: Sage Publications.

Sushman, U.N. 2017. The waning days of Indian IT workers being paid to do nothing. Quartz India. Last accessed 10 March 2020 from https://qz.com/india/1002252/the-bench-in-indian-it-infosys-wipro-cognizant-look-to-reduce-underutilised-workers-not-on-projects

Teelken, Christine. 2012. Compliance or Pragmatism: How do Academics Deal with Managerialism in Higher Education? A Comparative Study in Three Countries. *Studies in Higher Education* 37 (3): 27.

Theron, Colleen. 2019. Modern Slavery and Transparency in Supply Chains: The Role of Business. In *The Modern Slavery Agenda: Policy, Politics and Practice* edited by G. Craig, A. Balch, H. Lewis, and L. Waite, 187–218. Bristol: Bristol University Press.

Thomas, Kate Carruthers. 2019. Genders at Work: Gender as a Geography of Power in the Academy. In *Strategies for Resisting Sexism in the Academy* edited by G. Crimmins, 187–206. Cham: Palgrave.

Thompson, Edward Palmer. 1978. *The Poverty of Theory & Other Essays*. London: Merlin Press.

Thorpe, Charles. 2009. Capitalism, Audit, and the Demise of the Humanistic Academy. *Workplace: A Journal for Academic Labor* (15): 103–125.

Tong, Canon, Ip Wah Tak, W. and Wong, A. 2013. The Impact of Knowledge Sharing on the Relationship between Organizational Culture and Job Satisfaction: The Perception of Information Communication and Technology (ICT) Practitioners in Hong Kong. *International Journal of Human Resource Studies* 3 (1): 9–37.

Tracy, Sarah J. 2010. Qualitative Quality: Eight 'Big-Tent' Criteria for Excellent Qualitative Research. *Qualitative Inquiry* 16 (10): 837–851.

Walsham, Geoff. 2013. Empiricism in Interpretive IS Research: A Response to Stahl. *European Journal of Information Systems* 23 (1): 12–16.

Wånggren, Lena. 2018. Precarious Responsibility: Teaching with Feminist Politics in the Marketized University. *Journal of Feminist Scholarship* (14): 1–24.

Warner, Lyle G., Harvey, D.L, Stafford Harvey, A. and Smith, L. 1985. Latent Content and Ideology in a Subjective Measure of Alienation. *Sociological Inquiry* 55 (4): 363–382.

Weeks, Kathi. 2007. Life Within and Against Work: Affective Labor, Feminist Critique, and Post-Fordist Politics. *Ephemera: Theory and Politics in Organization* 7 (1): 233–249.

Wendling, Amy E. 2011. *Karl Marx on Technology and Alienation*. Basingstoke: Palgrave Macmillan.

Woodhouse, Howard. 2011. Learning for Life: The People's Free University and the Civil Commons. *Studies in Social Justice* 5 (1): 77–90.

Worrell, Mark P. 2009. The Ghost World of Alienated Desire. *Critical Sociology* 35 (3): 431–434.

Wright, Erik Olin. 2009. Understanding Class. Towards an Integrated Analytical Approach. *New Left Review* 60: 101–116. Last accessed 10 March 2020 from https://www.aacademica.org/erik.olin.wright/13.pdf

Wright, Steve. 2005. Reality Check: Are We Living in an Immaterial World? Underneath the Knowledge Commons. *Mute* 2 (1). Last accessed 5 March 2020 from https://www.metamute.org/editorial/articles/reality-check-are-we-living-immaterial-world

Xiang, B. 2007. *Global 'Body Shopping': An Indian Labor System in the Information Technology Industry*, 2013. Princeton, NJ: Princeton University Press.

Zachariadis, Markos, Scott, S.V. and Barrett, M. 2010. Designing Mixed-Method Research Inspired by a Critical Realism Philosophy: A Tale from the Field of IS Innovation. Proceedings of the International Conference on Information Systems, Saint Louis, Missouri, USA, December 12–15, 2010.

Index

MARX AND DIGITAL MACHINES

This book explores the fundamental contradiction at the heart of the digital environment: technology offers all manner of promises, yet habitually fails to deliver. This failure often arises from numerous problems: the proficiency of the technology or end-user, policy failure at various levels, or a combination of these. Solutions such as better technology and more effective end-user education are often put into place to solve these failures.

Mike Healy argues that such approaches are inherently faulty drawing upon qualitative research informed by Marx's theory of alienation. Using Marx's theory, he considers participants in three distinct settings: the workplace of information and communications technology (ICT) professionals; university scholars researching the ethical and societal implications of our digital environment; and a group of pensioners living in South London, UK, undertaking ICT training. By delving beneath the surface of how digital technologies are created, researched and experienced, this study illustrates the contradictory nature of our digital lives, as they directly arise from the needs of capitalism.

The book also places Marx's theory in contrast to the mainstream approaches derived from Seaman and Blauner. In researching and comprehending ICT, this book reaffirms the superior explanatory power of Marx's theory of alienation.

SOCIAL THEORY | SCIENCE AND TECHNOLOGY STUDIES | COMMUNICATION STUDIES

CDSMS CRITICAL DIGITAL AND
SOCIAL MEDIA STUDIES

THE AUTHOR

MIKE HEALY is an independent researcher, was previously a Senior Lecturer at Westminster Business School, University of Westminster. His published work includes papers on ethics and ICT, diversity and employment in the ICT sector, problems of e-government and (using Marx's theory of alienation) dignity in the IT sector. He is currently researching Covid-19 and digital technologies.