
Our alienated experience with digital machines

Comment piece

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A contradiction exists at the heart of our interaction with digital technologies (DTs): they offer a myriad of possibilities to enrich our lives yet habitually fail to deliver on this promise, 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, was designed to aid a more open, yet secure, internet, prioritising the protection of civil liberties. Ironic then, that ProtonMail was the mailer of choice for those working for Cambridge Analytica when they, allegedly, harvested 87 million accounts from Facebook. Big Data seemingly offer certainty in an increasingly perilous world, but the logic of digital solutionism exacerbate crises. DTs underpin sophisticated weather systems analyses helping us to track and understand climate change, yet the processing data centres 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). The ICT industry, supposedly offering high quality knowledge-based jobs, has a male gender bias deeply rooted in the sector. In Europe in 2017, the share of female ICT specialists was 17.2%, a decline of 5.3% from a decade earlier. Many Chinese ICT professionals work 12 h a day, six days a week. DTs use and enable child and forced labour in their production cycle and are instrumental in facilitating the development of modern slavery. Artificial intelligence programmers 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. ICT has been politicised in the international race for technical supremacy as evidenced by Huawei and 5G expansion.

The genesis of this contradiction can seemingly flow from 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. Yet despite the wide-ranging and sometimes positive initiatives flowing from this approach, the contradiction remains; it 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.



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I appreciate that some of the views expressed here may be controversial, and I am always open to debate these issues.

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Research focused on the contradictory way we experience DTs invariably concludes that measures such as better technology and/or more effective end-user education as well as greater regulation of the digital sphere, or a more rigorous adherence to ethical principles, are required. I believe that these conclusions may identify manifestations of the problem, but they ultimately fail to provide fundamental solutions. The problem requires examination from a radically different perspective enabling us to delve beneath the surface of the contradiction to reveal the underlying impulses that adversely impact on our alienated relationship with ICT. To do so, we could draw upon existing theories of alienation.

Two overarching traditions inform alienation research: Marx's perspective and the Seeman approach, with the latter preferred by most researchers. Seeman (1959) sees alienation as an *abnormal* response to life's pressures requiring suitable context-specific measures for its alleviation. It decouples expressions of alienation from the wider perspective, places the emphasis on the individual and identifies terms such as powerlessness, isolation, lack of voice, absence of empowerment as the antecedents of alienation. The individual's perception (or lack of perception) of her alienation is the departure point for study. These antecedents can be subject to measurement using appropriate metrics. The approach is one dominated by the positivist research agenda with an emphasis on *quantitative* research methods. Results of sample group questionnaires are processed via statistical programmes with results showing, for example, if one or more people are more alienated than others. They even purport to show that the same person can be alienated in one scenario but not in another. These results can then be compared to other groups. Invariably, this exercise is designed to recommend, for example, to human resource managers, policies that can either alleviate or eliminate alienation and to resolve any conflicts may exist. It is commonplace to see value-loaded terms such as deviant and disruptive behaviour within the Seeman tradition. Researching the digital machine problematic in this tradition draws our attention to the *surface* appearance of people's experiences.

For Marx (1970), manifestations of alienation derive directly from capitalism's conflictual and contradictory nature and are a *normal* response to problematic technological burdens. Marx argues that to survive and thrive, we must act upon and change the natural world. This is a collective endeavour as we make decisions about what is needed and how it should be obtained. We see ourselves in the things we produce, the changes we make and the relations we create. Marx argues that these fundamental human requirements are distorted by the labour–capital relation which determines what commodities are made and how they are made. Alienation occurs when we are separated from both the fundamental decisions determining the commodities produced and the production processes. Further, our ability to work itself becomes a commodity and as this ability can only come with ourselves, we too have become commodities. The manifestations of this condition are our alienated and competitive relationships with each other and our alienated selves. From a Marxist alienation perspective, the digital problematic is one digitised expression of deeper underlying tensions and conflicts. Thus, the contradictions above are not accidental; these are hotwired into the SSDs of our lives. Consequently, for example, codes of ethics or codes of conduct governing the use of ICT, no matter how professionally written or comprehensive, cannot solve the myriad of concerns linked to DTs.

Seeman's approach to alienation was designed to weaken the undoubtedly major conceptual breakthrough Marx made when he developed his theory of alienation, to turn our gaze away from the fundamental, transformative implications of Marx. The Seeman tradition considers alienation as an individual intellectual problem and is 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. Sisyphus made it near to the top of the hill where he had the possibility for 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. Marx encourages us to descend from the realm of speculation into the realm of reality. It is a call to move from what we imagine ourselves to be and to engage with the reality of our practical digital lives. So, the question is: Is the Marxist approach useful?

Merely restating Marx's theory of alienation is insufficient. It must be tested to determine if it is useful in researching DTs. This was the purpose of my *qualitative* research which covered ICT professionals, scholars researching the social and ethical implications of ICT and senior end-users in the Southwark Pensioners' Action Group (SPAG). The research centres on three themes. The first considers how valuable Marx's theory of alienation can be in explaining the experience of participants in three contrasting settings. The research shows that participants articulated significant adverse experiences that dovetail with the categories described in Marx's theory of alienation. The alienated product is in an intimate relation with the alienated process thereby vindicating the first relation Marx argued exists between product and process. The evidence presented in the book 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. Further, it provides substantial support for the claim that researching alienation entails more than looking at job or role satisfaction within specific contexts.

The second research theme examined how effective the explanatory power of Marx's theory is in identifying a commonality of experiences between the three settings. The evidence and its subsequent analysis indicate that applying his perspective requires a concomitant appreciation of the importance of mediation for specific contexts. It encourages an emphasis on the relationship between totality, mediation and immediacy. These mediated expressions can only be observed by research.

The third theme concerns the extent to which Marx's theory can provide a robust and positive framework for undertaking such research. Marx's 1844 *Manuscripts* (Marx, 1970) infused the spirit and practical work driving the project. 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. Thus, his 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 the seniors; and
- motivating the choice of participatory action research.

There is a paucity of qualitative research that engages with ICT professionals in a collective environment. Research on the adverse impact of project methodologies; the control the professional and the profession has over the industry; the rapid

commodification of skills such as programming, software maintenance and testing and business processes; equality of access and bias in employment procedures 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 would 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. Research could also investigate the coping and resistant strategies they use to deal with their alienated condition. Vigorously embracing Marx's theory of alienation would enable research on ICT professionals to move beyond the straitjacket of, and the inadequate categories associated with, job satisfaction facilitating a greater explanation for, rather than a description of, the conditions in which ICT professionals work.

Similarly, Marx's theory of alienation could drive research on scholars. Possible themes include how online open access journals are 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 the problems of our digital age. Such work could feed into the healthy discussion on the possibilities of creating unalienated spaces such as an "academic commons" and the development of critical pedagogy. I hope this book encourages scholars to be consciously sensitive of their own alienating conditions when 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?

The research for the third group focused on the interaction older adults have with ICT. The results indicate that similar work could make good use of alienation theory to examine the relations determining use of the technology. They indicate collective, shared and, user-owned projects based on participatory action research, embracing sensitivity to the alienated experiences of ICT use could favourably inform both technical development and end-user training. The evidence from this setting also signifies that ICT learning strategies 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;
- appreciate that expressions of alienation will constantly come to the fore both with the trainers and the learners.

Using Marx's theory of alienation to complete one research study, in one language, shows that it offers real potential compared to other approaches, but that potential requires constant reaffirmation and buttressing by continuous testing. It is foolish and arrogant not to 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, p. 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.

The processes used to undertake the research for this book should encourage anyone who has profound disquiet about the way alienation and ICT is currently researched and who is seeking an alternative direction. I will not assert that the specific approach I have used is the only way to undertake such research, but I strongly argue that Marx's theory of alienation offers much greater explanatory power than other theoretical approaches. Alienation is not an anomalous condition, and the experience of the participants in the research 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 where capital is both the cause and the beneficiary. It colours our relationship to DT's.

For Seeman, the amelioration of alienation is realised within the specific instance through, for example, appropriate policies or more effective training programmes, the aim being to help capital manage abnormal or deviant behaviour. For Marx, as alienation is generated by and reinforces the relationship between capital and labour, it can only be eradicated by the abolition of that relation requiring a radical transformation of existing economic, social and political structures. When alienation is confronted and challenged, the process can develop into political action.

The politics of alienation are similar 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. Marx recognises the need to tackle the whole site, roots and all. 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. Chinese high-tech programmers, working 12 h a day, six days a week, have responded to their conditions by collectively naming and shaming companies who demand, indeed celebrate, long unsocial hours irrespective of their extremely negative consequences. These programmers organise in secret to progress their demands, yet because of their working conditions, they know action is required on a collective basis. Compare this to the UK and the US video game programmers who are now openly unionising to oppose the harsh working conditions. Three different groups of ICT workers, in differing cultural environments, geographically separated by thousands of miles, respond in the same way. Drilling down to reveal the fundamental capital-labour relations each group experiences enables us to see why they react in a similar fashion and comprehend why, through mediation, their concrete practical actions may differ.

A key takeaway from the book is that ultimately the elimination of the alienation we experience with DTs is to place their ownership, development and application under collective, communal control. Users and creators of DTs would come together to decide the priorities of both the products made and the processes of production. 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 our digital 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, similar to the 996 movement in China, the video game designers, the students who have protested the use of inequitable algorithms to determine academic grades or the Google workers who, as I write this article, are unionising against the Alphabet company. Daily, we must cope with

the real practical problems associated with DTs. In doing so, we create networks that continually discuss problems 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 result from the interplay of human action and an ever-changing objective world. Our interaction with increasingly sophisticated digital products should not distract us from seeing society's fundamental relations. Similar to Dorothy, in *The Wizard of Oz*, we should demand and strive to know what is behind the curtain. The book will have served its purpose if it encourages ICT professionals, scholars and end-users of ICT to take practical steps to challenge alienation as part of a process concluding with elimination of the contradiction so deeply rooted in our digital lives. Would this mean an end to frustrating experiences with DTs? I doubt it. But that is frustration, not alienation. However, it would mean an end to, for example, the environmental degradation, the child labour, the exploitative working condition experienced by ICT workers all over the globe and the waste of resources associated with DTs. To me, that seems something worth striving for.

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