



Feminist geographies of digital work

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Abstract

Feminist thought challenges essentialist and normative categorizations of 'work'. Therefore, feminism provides a critical lens on 'working space' as a theoretical and empirical focus for digital geographies. Digital technologies extend and intensify working activity, rendering the boundaries of the workplace emergent. Such emergence heightens the ambivalence of working experience: the possibilities for affirmation and/or negation through work. A digital geography is put forward through feminist theorizations of the ambivalence of intimacy. The emergent properties of working with digital technologies create space through the intimacies of postwork places where bodies and machines feel the possibilities of being 'at' work.

Keywords

digital geographies, economy, feminist theory, intimacy, work

I Introduction

The digital has been a focus for enquiry in geography from a variety of perspectives. Scholarship has considered interactions between software and space including GIS and spatial knowledge; digital divides and development; code/spaces; robots; big data and forms of governance (Del Casino Jnr, 2015; Graham, 2011; Kitchin and Dodge, 2011; Kitchin, 2013, 2014a; Kleine, 2013; Wilson, 2014). The differentiated materialities of digital technologies and their relationship with lived experience have also been addressed (Ash, 2013; Kinsley, 2014; Kirsch, 2014; Leszczynski, 2014; Rose, 2015; Wilson, 2011, 2012). This article contributes to these cultural perspectives by building on feminist geographical analyses of the digital (e.g. Elwood and Leszczynski, 2011; Kwan, 2002, 2007; Leszczynski and Elwood, 2015) as a means through which geographers can 'more

assertively' contribute to debates on 'the digital economy' (Kinsley, 2014: 378).

From the (limited) perspective of the 'Global North', ¹ I contend feminist critique provides an important analytical lens for understanding the role of digital technologies in geographies of work. These technologies enact an *extension* of the activities that count as work, together with an *intensification* of working practices, rendering the boundaries of the workplace *emergent*. In addition to making digital products, digital work is understood to include broader practices that extend and intensify working activities through digital technologies: spatial processes that should be of significant

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interest to geographers. Such (technological) changes to work are ambivalent: they provide opportunities for affirmation and negation (as long noted, e.g. Beck, 2000; Hardt, 1999; Negri, 1989; Sennett, 1998). Affirmatively, work offers a basis for utopian demands and might be experienced as creative fulfilment. Negatively, work reduction underpins claims for work/life balance, particularly when excessive work is experienced as exploitation. Therefore my aim is not to delimit 'the digital', claiming it marks a 'phase shift' in understandings of technology and work. Neither is it to suggest that feminist critique is the only way to approach such work. Rather I demonstrate the richness and complexity of feminist thought² for critical perspectives on the emergent properties of work with and through digital technologies. Feminist critiques of work have been articulated through such extensions and intensifications of working activity.

A motivating feminist issue has been the emergence of different working experiences beyond and within what counts as 'work' (Cameron and Gibson-Graham, 2003). Therefore, much feminist critique has operated by challenging the spatio-temporal boundaries of work, for example through extending work to include 'social reproduction', as well as by highlighting the ways working activity is intensified through forms of 'emotional labour' (Hochschild, 1983; McDowell, 1991; Pratt, 2004). In questioning what counts as work by foregrounding different and differentiated working practices, feminists have shown how the 'workplace' is ambivalent; it might be a space for affirmation and for negation. The 'home' has served as a paradigmatic site in which working experience can be both affirming, for example through the pleasures derived from various labours of love, but also negating, because such work is unremunerated and therefore potentially exploitative (Boris and Parreñas, 2010; Pratt, 2012). Thus feminist demands have both sought affirmative recognition of the category of 'women's work' but have also shown how the differentiated nature of work negates any straightforward categorization. Therefore, feminist critique offers a way of considering the ambivalent emergence of digital work. Feminist approaches aid understanding of how the emergent properties of the digital workplace might result in a fulfilling and inclusive experience but also an exploitative and isolating one. Specifically, *intimacy* is put forward as a frame for a geography of the digital that develops through work's ambivalence. Feminist approaches to intimacy emphasize its ambivalent potential to be productive and destructive, corresponding to the possibilities for digital work to be fulfilling yet exploitative (Pratt and Rosner, 2012). Intimacy occurs through a contradictory spatial sense as private and proximate, public and distant (Berlant, 1998). Thus I argue for a geography of the digital in the extensive and intensive emergence of working space through intimacy.

To know the digital workplace through intimacy is to attune to the ambiguity of its actualization where the establishment, displacement or transcendence of working limits occurs through what it feels like to be doing work. By emphasizing how knowledge unfolds through experience, an intimate geography of the digital combines theory and practice to put knowing 'working space' together with changing 'the workplace'. The article first substantiates the claim that the geographies of digital work are ambivalent. It shows how digital technologies result in extensions and intensifications of work that hold possibilities for working affirmation and negation. Second, it considers how the direction of feminist critique follows two 'moves' that are articulated through such ambivalences of work extension and intensification. The 'anti-essentialist' move challenges singular locations of work through forms of extension, whilst the 'anti-normative' move questions singular performances of work through modes of intensification. Third, it develops from strands of feminist thought an intimate geography of digital work. The emergent properties of digital working create space through the intimacies of postwork places where bodies and machines feel the possibilities of being 'at' work.

II Geographies of digital work

The 'saturation' of space with forms of software, computational systems and devices is increasingly well documented by geographers (see Kinsley, 2014). Economic questions are examined in this scholarship, for example the value of geo-locational data; the productivity of 'smart cities' and the provision of digital infrastructure (e.g. Graham et al., 2012; Kitchin, 2014b). However, the embodied processes by which such digital economies take place receive less investigation. People, and how they live and make a living with and through these technologies, deserve greater attention. This section puts forward the geographies of work as one solution to this problem of the 'relatively few empirical examinations of contemporary digital geographies' (Kinsley, 2014: 368). I outline first how digital technologies extend work beyond the 'firm' workplace and, second, how this results in intensified worker practices to realize working location. I show that such working extensions and intensifications through digital technologies are ambivalent: work can be both a form of self-exploitation and self-fulfilment. These emergent – and thus uncertain – spatial experiences of work through digital technology deserve attention because they are normal, not exceptional, as noted by those challenging the novelty of labour precarity (Neilson and Rossiter, 2008) or the 'cybertariat' (Huws, 2003). The stability of the 'standard employment relationship' that reduces acts of making work into the institutions of finding a job have been forms of economic security extended to a 'relatively privileged group of disproportionately White, male workers in the global North' (De Peuter, 2011: 419). Understanding how digital technologies

both produce and mitigate such 'precarious' working geographies by folding in life 'beyond' work is therefore vital for approaching economic futures.

I Extending work

Digital technologies enable work to extend or take place beyond the firm or formal workplaces. In the following I draw out three modes of digital work extension (that are not exhaustive): intermediation, co-creation and multilocation work. First, digital technologies extend the possibilities of 'outsourcing' work through mediating labour markets. This occurs through the parcelling up and apportioning of 'jobs' through digital platforms. These platforms expand on the role of 'labour market intermediaries' in shaping both the supply of workers and the legal conditions of employment within 'subcontracted capitalism' (Wills, 2009; Coe and Jordhus-Lier, 2011; Coe, 2013). Crowdsourcing labour platforms, of which Amazon's Mechanical Turk is paradigmatic, enable companies to obtain labour to undertake 'tasks that could alternatively be performed internally by employees' (Bergvall-Kareborn and Howcroft, 2014: 214). Such leveraging of the crowd can both build on forms of outsourcing, where companies externalize (menial) 'human intelligence tasks' (Mullings, 1999; James and Vira, 2010), but also depart from them where platforms operate peer-to-peer (e.g. the platform TaskRabbit), such that client and service-provider are (theoretically) interchangeable (Bauer and Gegenhuber, 2015). These forms of distributed production heightened by digital technologies constitute the 'openness paradigm' (Ettlinger, 2014: 100) in which a 'new tier in the division of labour facilitated by new communications networks' entails 'unregulated freelance work'.

Second, digital technologies extend work through opening up possibilities for forms of 'co-creation'. Rather than work taking place 'in-house', 'value' is created in partnership

between producers and consumers, further blurring any distinction between them. This has long been noted in forms of creative media activity (Banks and Deuze, 2009; Roig et al., 2014) where terms such as 'free labour', 'fan labour' and the 'audience commodity' (Manzerolle, 2010; Terranova, 2000; Scholz, 2013) have been evoked to indicate how 'time spent on Facebook and other corporate platforms is not simply consumption or leisure time, but productive time that generates economic value' (Fuchs, 2014: 98). In addition to digital content production, co-creation might also include activities like online (garment) customization, internet shopping, and self-service check-outs, which mean that consumers might be understood as workers, or as 'working customers' (Cova and Dalli, 2009; Gabriel et al., 2015).

Third, digital technologies enable forms of 'multi-location' work that takes place beyond the 'workplace'. This builds on the growth in teleworking and the home office (Avery and Baker, 2002; Greenhill and Wilson, 2006; Johnson et al., 2007; Steward, 2000; Vartiainen and Hyrkkänen, 2010; Vilhelmson and Thulin, 2001). The possibilities for networked connection mean 'white-collar' workplaces are interstitial, producing 'plural workscapes' (Felstead et al., 2005) that might affect how work is done. Sites such as airports, hotel lobbies and cafes exhibit different 'task-space relationships' in which the character of the space and feature of the work task interact. 'Mobile' and 'global' work (Cohen, 2010; Jones, 2008) illustrate how mobilities can produce highly localized experiences of space (Cresswell, 2011; Hannam et al., 2006; Laurier, 2004) in which workers deploy 'micro-practices' to allow them 'to adapt the spaces [...] to their particular work needs and in doing so create a temporary workspace' (Hislop and Axtell, 2009: 72). Taken together, these extensions of work beyond 'firm' location result in greater intensities of activity so that 'space' can be transformed into a 'workplace', examined below.

2 Intensifying work

This section considers the intensifications of work, showing how they can be understood both quantitatively and qualitatively, before emphasizing the ambivalence of emergent working practices wrought by digital technologies. Without static location, a greater number of tasks are required so that space can be 'fixed' for work. For example, such intensification might involve the considerable effort invested by 'multi-location workers' to produce a temporary workplace (Hislop and Axtell, 2009), including the management of spatio-temporal arrangements through the 'perpetual coordination' (Larsen et al., 2008) of interactions with colleagues and clients enabled by digital technologies. Work-life balance policies might be framed as a response to such long-running problems of 'overflow' and intensification of work (Jarvis and Pratt, 2006) that are exaggerated by the logic of continuous connectivity of handheld mobile technologies (Wilson, 2014). These policies have aimed to validate paid work in combination with other activities, including leisure. However, Perrons et al. (2006: 75) claim that 'life' activities are more often constituted by forms of care work, such that balance leads 'to long overall working days rather than the implied harmonious equilibrium'. This problem of 'balance' is further entrenched through digital technologies, where intensification occurs not only through calculable dimensions but through the qualities of 'network time' in which the 'unpredictable' and 'volatile [...] temporality of the network [is carried] into almost every aspect of our lives' (Hassan, 2003: 236). Such qualities of intensity that allow the office to be 'always on' (Wainwright, 2010) produce 'variable geometries of connection' (Crang et al., 2006) that challenge the possibilities for precise balance, meaning that if any equilibrium is to be found, it is a chance 'teeter on the brink' (Hassan, 2003: 239).

The 'network economy and network worker' (Hassan, 2003) then occur through forms of work intensification that involve not only a greater quantity of tasks to 'delimit' the workplace, but also tasks of a different quality. When the workplace might 'crop up' unaccounted for, (potential) workers must 'start engaging in interpretive (imaginative) labour' (Graeber, 2015: 101, my emphasis). Rather than 'brought into being by institutionalised frames of action' (p. 99), the workplace is performed by self-organized workers who decide where and when to 'clock off', and also therefore by imagining what might (not) constitute 'working activity'. Such a relationship between worker independence and 'mental labours' (Ross, 2000) of conjuring working possibilities beyond institutional architectures has long been associated with forms of artistic work. The expansion of these *auteur* practices of the artist to a much wider section of the workforce through 'creative work' means:

people increasingly have to become their own micro-structures, they have to do the work of the structures by themselves, which in turn requires intensive practices of self-monitoring or 'reflexivity'. (McRobbie, 2002: 518)

So the self-organization of work enabled by digital technologies extends the intensive artistic work of sustaining (and promoting) oneself alongside one's art. Digital technologies deepen the importance of 'netWORKing' (Nardi et al., 2002), and 'professional cool', in the 'foundationless suspense' and 'perpetual anxiety' of work in the 'knowledge' and 'creative' economies (Liu, 2004: 19). Such 'networking is an additional form of labour that is required to demonstrate ongoing employability' (Gregg, 2011: 11), when permanent employment is unlikely or undesirable. This performance of 'cool' amidst insecurities is enhanced by online social networking (such as Facebook and LinkedIn), 'virtualizing' the possibilities for entrepreneurial promotion of the self (Flisfeder, 2015; Gregg, 2009).

These emergent properties of digital work are ambivalent. The extension of work beyond the formal/institutionalized workplace requires greater intensities of work that might be both affirming and negating. The possibilities for worker freedoms through digital technologies simultaneously require greater attachments to work to secure working conditions of possibility - uncertainties that emerge through the contradictions of 'self-exploitation in response to the gift of autonomy, and dispensability in exchange for flexibility' (Ross, 2008: 34). Thus in the forms of co-creative digital work outlined above, a 'Marxist' framing of the exploitative extraction of surplus value through such 'free labour' can also be read with notions of 'affective consumer labour', and the potential affirmation and enjoyment derived by engaging in such activities (Beverungen et al., 2015; Jarrett, 2016). Equally, the drive to balance or limit working hours through work-life balance policies sits alongside the possibility that the 'work world offers a range of consolations when one's private life may demand more effort and less reward than [...] paid pursuits' (Gregg, 2011: 5). So the creative, affirming possibilities of (self-organized) work through digital technologies that might 'make-over the world of work into something closer to a life of enthusiasm and enjoyment' (McRobbie, 2002: 521) simultaneously result in working conditions that are 'less just and equal in [...] provision of guarantees' (Ross, 2008: 35). This section has outlined a geography of the digital economy through a focus on the ambivalent extensions and intensifications of work. A critical vocabulary for approaching these emergent properties of work, in which theories for changing work might occur through working practices, is traced in feminist geographies below.

III Feminist geographies of work

Feminist critique has used the extensions and intensifications of work to outline a politics of

the emergent properties of working activity by emphasizing their ambivalence. Recognizing the diversity of feminisms, I draw on the ways such thought and practice have involved a complex politics of demanding in which claims for inclusion within the category of 'work' have the potential to both affirm and negate working activity. Feminist politics has highlighted extensions of work to claim recognition within existing modes of value (namely 'capitalist waged labour'), but also has shown how the intensities of working activity demand alternative understandings beyond the wage relation. Regarding the digital extensions and intensifications outlined above then, a key question explored in feminist thought concerns where and when work that is not recognized as such becomes a space for affirmation or negation. This holds in tension the possibilities and limits of a politics of recognition when work is emergent. Therefore, whilst drawing on feminist traditions within (economic) geography (e.g. Gibson-Graham, 1996, 2006; McDowell, 1991, 1997, 2015; Rose, 1993, 1997; Pollard, 2013), the aim is not 'to reduce feminism down to the identity politics of gender' (Wright, 2010: 60). As should already be apparent, feminist thought might take the situated and embodied struggles of 'women's work' as a starting point, but the orientation of these struggles does not necessarily follow any singularly 'gendered' figure. To illustrate this, I outline two critical 'moves' of feminist politics that are useful for understanding the emergent properties of work. Neither move is intended to speak for the diversity of feminist projects, nor is each without intersections with other forms of politics, as will be indicated. The aim in using these broad brushstrokes is to signal some of the direction of action opened by feminist thought for approaching work.

I The anti-essentialist move

The anti-essentialist move is one that questions unitary, coherent identity. McDowell (1993:

157) demonstrates this feminist approach in the aim 'to challenge the very nature and construction of that body of knowledge that is designated academic geography'. For some feminists interested in economy, this has meant questioning both the essence of the category of work as well as refusing 'capitalism a planetary identity as the most coherent, powerful force on earth' (Wright, 2010: 61). The reading of feminist anti-essentialism presented here foregrounds the ways this move deals with extensions of work beyond waged labour, or 'organized' production. Drawing on an interpretation of Marx, this might be understood as the way capital attempts to exploit 'absolutely', for example by extending the working day, rather than 'relatively', for example through raising the intensity of labour (Witheford, 1994: 89). To do this, feminist scholarship has questioned the absolute nature of 'production' as the site of value extraction by 'capital'. Accepting the Marxist critique of production as the grounds for exploitation, feminist thought has challenged the assumption of family or domestic labour as 'non-productive' and therefore not a site of exploitation (Dalla Costa and James, 1972). In foregrounding such seemingly non-productive activity, feminists have highlighted the 'relationship between the production of value "at work" and the social reproduction of labourpower' (Mitchell et al., 2003: 415; Bakker, 2007). Thus through child-raising and housework, women's role in the reproduction of labour power is 'a form of exploitation simultaneously distinct from, and complementary to, that of wage labour in production' (Witheford, 1994: 98).

One way of questioning any essential understanding of work has been through strategies that 'read for difference' (Gibson-Graham, 2008), undermining the dominance of conventional framings of labour. An example of this strategy is the tactic of 'renaming' work, such as through the term 'emotional labour' (Hochschild, 1983). Whilst deployed differently, this

term has broadly been used to extend what counts as productive activity, with geographers often focusing on the role of emotions in constituting both remunerated and unremunerated care work (Boyer et al., 2013; Dyer et al., 2008; Huang and Yeoh, 2007). Such an antiessentialist politics is ambivalent: it manifests as both a negation and an affirmation of work. On the one hand, the demand is for forms of (women's) 'nonwork' to count as work such that this activity can be understood as (double) exploitation. Work must be recognized for it to be negated, understood as oppressive and therefore a site of struggle. On the other hand, the demand is (for women) to be counted as workers in order to realize agency in political struggle. Work is affirmed as a means through which to enact potentially subversive politics. Therefore, the anti-essentialist move exposes the 'performance' of work as a category with seeming coherence but without essential (affirming or negating) substance. Work is evoked and occurs with some stability, yet simultaneously extends beyond its boundaries, evading absolute categorization. This raises the question of why, if without essence, such 'performances' of work occur as they do. There is a strange historicity to the act of work that despite its diverse possibilities means that 'the act that one does, the act that one performs, is, in a sense, an act that has been going on before one arrived on the scene' (Butler, 2004: 160).

2 The anti-normative move

Through exposing and challenging 'social norms', the anti-normative move can be understood as a response to this historicity to the act of work. This move foregrounds the 'relation of individuals to productive work' (Donzelot, 1991: 251) when the 'contemporary blurring of work and nonwork is accepted and understood as normal or even positive' (Mitchell et al., 2003: 429). The reading of anti-normativity presented here shows how work is

intensified (in and beyond the 'workplace') to include all kinds of embodied efforts that might cultivate and be cultivated according to certain standards. This intensification results from the ways these standards, or norms, simultaneously require and produce 'work'. Such simultaneous 'production' and 'consumption' occurs because, for Butler (1993), norms are not stable but nonetheless continue to direct work despite the very production (i.e. instability) of their normative nature. In Butler's (1993: 13) words, a norm shapes the (working) subject 'to the extent that it is "cited" as such a norm, but it also derives its power through the citations that it compels'. Thus, in addition to work as an extended relation to organized production, work also becomes an intensive relation to the self through the embodiment and (re)production of norms. The ongoing shaping of the (working) subject occurs through 'work' on the self, such that norms do not 'simply exist [...] "out there" but instead are involved in 'how bodies work and are worked upon' (Ahmed, 2004: 145, my emphasis). This normative 'work on the self' as the primary relation of the worker to productive work, similar to the processes of individuation McRobbie (2002) notes as characteristic of creative work, has been recognized as part of wider intensifications of 'work' in 'life'. Such intensification is not simply a quantitative concentration of 'work' tasks that undermines the possibilities of enjoyable 'social' time, as the political claim underpinning demands for work-life balance might suggest (Burchell, 2006).

Intensification is also a qualitative shift in which the conceptual distinction between the two is undone, 'making work itself the territory of the social, the privileged space for the satisfaction of social need' (Donzelot, 1991: 251). This 'socialized worker' (Negri, 1989) is 'socialized' by 'her participation in a far more ramified and expansive system of value creation' in which 'a central element in her work involves communicative and coordinative tasks'

(Witheford, 1994: 95). Witheford's reading of Negri's position is symptomatic of the way this intensification of work through embodiment of norms can be understood to take on 'feminine' qualities, typified in the sorts of emotive and connective practices required to balance both caregiving and running the household. In this 'homework economy' outside 'the home':

Work is being redefined as both literally female and feminised, whether performed by men or women. To be feminised means to be made extremely vulnerable; able to be disassembled, reassembled, exploited as a reserve labour force; seen less as workers than servers; subjected to time arrangements on and off the paid job. (Haraway, 1991: 166)

Thus, whilst not necessarily undertaken by women, the intensification of work as the territory of the social normatively constructs work as feminine (and therefore to some degree disempowered, in this extract from Haraway). The 'microstructures' and forms of 'self-exploitation' (McRobbie, 2002) that constitute the normative 'work on the self' required to be a 'socialized worker' are continuations of forms of 'women's work'. Therefore, in considering how norms construct the relationship between working subjects and work, the anti-normative move illustrates the challenges to feminist demands for recognition of and through work. First, as with the anti-essentialist move, the anti-normative move illustrates work's ambivalence: its paradoxical negations and affirmations. Work is shown to be normative, negatively constraining working bodies through forms of self-management that might be oppressive.

Yet the anti-normative moves also illustrate the instability of normative work on bodies and therefore the affirmative possibility for shaping bodies at work beyond these constraints. This posits 'work' as an activity in which women 'participate in their own representation of themselves while simultaneously rejecting the

representation of themselves as exemplars of Woman' (Wright, 1997: 278). Second, in thus focusing on work's emergent intensities, the anti-normative move emphasizes a politics of the qualities rather than quantities of work. Instead of 'counting in' and 'adding on' (Cameron and Gibson-Graham, 2003) working activities so that they can be recognized as such, the focus is on how work is internally differentiated: it is undertaken through diverse styles and performances that evade absolute categorization and recognition. So if work is 'a kind of imitation for which there is no original' (Butler, 1991: 21), the feminist politics lies in dismissing any 'original' essence of work that could be empowered through recognition, but also in showing how such appearance of internal essence continues to be differentially produced. Thus this post-structuralist move to challenge any 'quest for completeness' in work (Cameron and Gibson-Graham, 2003: 152) might be taken up as a negation (i.e. normative constraints) or an affirmation (i.e. alternative scripting) of working experience. This is the distinction between the negations of the subject that can be identified in Butler's reading of Derrida's différance, and the affirmations of the subject to be found in Gibson-Graham's (2008: 614) transformative politics that might 'bring new worlds into being'. To conclude this section examining how feminist geographies have approached the emergent properties of work, I emphasize the significance of focusing on the qualities of work. The emergence of the digital workplace means that what counts within the category of 'work' is open, necessitating a politics located in knowledge of the digital workplace as it unfolds, understood through the geographies of intimacy, as I argue next.

IV Intimacies of digital work

I have outlined the emergent properties of digital work, and how feminist critique operates through a politics of work's emergence: its extensions and intensifications. This section combines these threads to consider how feminist thought can approach the emergence of work through digital technologies. I foreground feminist theorizations of intimacy as a critical lens for the geographies of digital work. Feminist approaches to intimacy emphasize its ambivalent potential to be both affirming and negating. Thus knowing working space through intimacy means paying close attention to what it feels like to be 'at' work amidst the emergent properties of the digital workplace. First, intimacy is situated within a wider sense of ambivalence towards work in contemporary feminist thought. In part, this stems from the contradictions of a politics of recognition, where the promise of working 'equality' for women either fails to be realized or proves insufficient when faced with the excesses of life beyond straightforward gendered work identities. Instead of trying to balance 'the work ethic' and 'family values', I illustrate how Weeks' (2011) 'postwork imaginary' builds on the anti-essentialist move to propose a politics suited to the extensive properties of digital work. Second, I indicate how feminist understandings of 'sexual difference', rather than categories of gendered identity, build on the anti-normative move to respond to these ambivalences of recognition through work. In emphasizing the unstable 'matter' of embodiment, such 'sexual difference theories' (e.g. Grosz, 2005) illustrate the complications of categories of maker and made in working relationships with machines, necessitating an understanding of digital work intensity as both quantification and qualification of the self. Third, I outline how such experiences of digital work occur through the spatial sensibilities of intimacy (Berlant, 1998). The intimacies of the digital workplace occur through what it feels like to be at work when working space is disruptive and mobile.

I Postwork places

The home, workplace, market, public arena, the body itself—all can be dispersed and interfaced in nearly infinite polymorphous ways, with large consequences for women and others. (Haraway, 1991: 163)

To understand how the intimate might become the critical location of digital work requires focusing on work extension beyond the formal 'workplace'. This builds on the anti-essentialist feminist move in which a politics is constructed through the extensions of 'work' as both part of but also separate from 'life'. Here I consider how the 'feminist insistence on expanding the concept of labour beyond its waged form' (Weeks, 2011: 122) provides a frame suited to the extensive properties of digital work. This means acknowledging the contradictory possibilities of work as a demand on time but also, simultaneously, as a demand for time, 'Work time' can itself be demanded as a space for desires, wishes and wants, in what Weeks (2011) terms a 'postwork' imaginary. For all that might be understood as monotonous, routine and binding about work, alternative possibilities exist and can be illuminated through critical scrutiny of present working ideals and realities. This postwork project of critique is an affirmative one that both 'refuses the existing world of work that is given to us and also demands alternatives' (2011: 233). This means that demands for and through work can 'be understood as an invocation of the possibility of freedom; [...] as the time and space for invention' (Weeks, 2011: 145). Therefore, Weeks' imaginary is one suited to the emergent properties of digital work because - if 'work' occurs anytime and anywhere - the opportunity arises for a (feminist) politics that cannot be subsumed into the (often competing) discourses of family and work values.

Such a 'postwork' condition extending 'work' beyond the formal 'workplace' can be understood in (at least) two ways in relation to

digital technologies. One is to find opportunity in the 'deskilling' and unemployment that some worry will result from digital technologies as the latest wave of 'automation'. Rather than a source of job losses, automation becomes the grounds for demands for full unemployment and therefore an apparently 'postwork' condition in the temporal sense. This would be enabled, according to Srnicek and Williams (2015), by some form of Universal Basic Income³ and, perhaps unsurprisingly, would not mean no 'work' per se, but rather a revaluation of work based on what it involves. Boring and unattractive work would have to be better paid, whereas attractive work that people want to do would need less remuneration. Another 'postwork' expression through digital technologies is perhaps more nuanced. Rather than seeking full unemployment, digital technologies open up possibilities for work time to be more creative. The potential for 'smart machines' to 'increase the intellectual content of work' (Zuboff, 1988: 243) enables distributed decision-making that goes beyond 'responsible autonomy' (Friedman, 1977) of workers within organizations. Instead, work occurs independently through semiinstitutionalized attachments to 'entrepreneurial' practices of starting-up (Cockayne, 2015) and the broader informalities of 'maker cultures' utilizing small-scale digital ('additive') manufacturing technologies (Richardson, 2016; Rosner and Turner, 2015) that have evolving logics of circulation (Birtchnell and Urry, 2013a, 2013b). Here, the digital is held to enable a democratization of desirable creative work, although still by no means universally available.

Thus elements of the 'postwork' imaginary might be far-fetched, but this utopianism is deliberate. For Weeks' feminist politics, the aim is to move beyond the constraints of existing categorizations of working hours to enable people 'to imagine and explore alternatives to the dominant ideals of family form, function and division of labour' (Weeks, 2011: 170). This seeks to pick up from forms of feminist

utopianism that declined from the 1970s and gave way, according to Weeks (2011: 184), to a more limited politics of recognition:

the aspiration to move beyond gender as we know it was supplanted by efforts to secure the recognition and equal treatment of a wider variety of the genders we now inhabit; the project of 'smashing the family' and seeking alternatives was largely abandoned in favour of achieving a more inclusive version of the still privatised model; postwork militancy was eclipsed by the defence of the equal right to work balanced with family.

To rectify this, a (feminist) politics of work needs to be more, not less, demanding, redirecting 'our attention and energies toward an open future' (2011: 206). Utopian demands for work beyond the regularities of the workplace can feed playful improvisation and performance of differently desirable working practices that might turn into wider realities. In such postwork possibilities enabled by digital technologies the distinction between own time and owned time, between the personal and the professional, is necessarily blurred. So, if digital technologies mean work can become a creative, lively practice that extends the 'workplace', it is possible to see how this working geography might become an 'intimate' one. The postwork imaginary offers a framework for the ambivalence of the extensive properties of digital work that, whilst potentially resulting in more 'work' time, might also mean more desirable activity, pointing to the need to examine the differing intensities of such working experiences, taken up below.

2 Bodies and machines 'at' work

Ambivalence towards the disrupted unities mediated by high-tech culture requires not sorting consciousness into categories [...] but subtle understanding of emerging pleasures, experiences, and powers with serious potential for changing the rules of the game. (Haraway, 1991: 172–3)

As well as extending the location of 'work' into 'life', intimate geographies of the digital also intensify individual working experience. This picks up the anti-normative feminist move connecting the ways work is categorized (and 'represented') with differently embodied working experiences. In these relationships between work on bodies and bodies at work through digital technologies, the category of 'women's work' holds an ambivalent position. Technological advancements erase divisions between male and female work, as hypothesized by Marx and Engels (1967: 88): 'the more modern industry becomes developed, the more is the labour of men superseded by that of women. Differences of age and sex have no longer any distinctive validity for the working class.'

Equally, though, by opening possibilities for the self-organization of work digital technologies encourage flexible, relational practices – negotiations and compromises that are forms of 'soft mastery' (Turkle, 1997: 56) often associated with normative working styles of women. Turkle (1997) has argued that whilst such 'soft' skills with and through technologies are not unique to either gender, they are nonetheless styles 'to which many women are drawn'. Given these ambivalences of the category of 'women's work' in relation to digital technologies, I suggest that experiences of digital work might be understood through the intensities of 'sexual difference'. Rather than framing the experience of work as a priori 'male' or 'female', foregrounding notions of 'sexual difference' means focusing on how working processes are indeterminate, exploratory, often transforming senses of gendered (and/or working) identities. In this understanding, gender identity is an effect, not a cause, of working experiences, similar to Butler's model of performativity.

However, in contrast to Butler's theorization of the production of gender, sexual difference theories emphasize the biological and/or nonhuman constitution of 'matter', characteristic of

what has been termed 'new materialist' feminism (see Barad, 2003; Colls, 2012; Hird, 2009; Fannin et al., 2014; Jagger, 2015; Kirby and Wilson, 2011). Broadly, the contention is that Butler's account of materiality overemphasizes 'culture/discourse' and therefore does not upset gender enough; it does not focus on the (biological) instability of 'matter/bodies'. Instead, through emphasizing the changing materiality of bodies, sexual difference unsettles the boundaries between the human and nonhuman, organism and machine, in ways that are useful for conceptualizing the experience of digital work.

By foregrounding the role of technology in working experiences, digital work magnifies how the worker is both creator and created through relationships with machines. In forms of 'artistic' work such as music-making and photography, (digital) technology might be held to function in a mimetic capacity, operating as a 'mirror' of the observing subject in the world. In less 'creative' work, (digital) technologies objectify the worker, often through processes of observation and quantification now heightened through 'wearables' and other selftracking devices (Moore and Robinson, 2015). So in these human-nonhuman relations, the difference between the maker and the made becomes uncertain, meaning that 'what people are experiencing is not transparently clear' (Haraway, 1991: 173). As well as potential tools of control, the 'enchanting' and 'romantic automatism' (Sussman, 1999; Turner, 2008) of working technologies result in 'close, sensuous and relational' (Turkle, 1997: 62) engagements with the worker. Thus, digital work necessitates careful attention to the co-constitutive experiences of worker with technology, complicating 'simple models of subject and object' (Crang, 1997: 366).

In focusing on processes that exceed categorization, sexual difference emphasizes a qualitative approach to the intensities of work experience, holding open working subjectivity

through these worker-technology relations. Grosz (2005: 160) argues that:

sexual difference is not a measurable difference between two given, discernible, different things – men and women, for example – but an incalculable process, not something produced but something in the process of production.

The provisional nature of the sexed and/or working body that appears in this account requires understandings of the 'intensity' working space that combine the objective and the subjective, appropriate for digital technologies. As well as being intensive - comprising dense spatio-temporal concentrations of tasks - digital work is also *intense* - comprising degrees of directed attention through and towards tasks. Digital working space is objectively intensive through high volumes of jobs and subjectively intense through the variegated experiences of their undertaking. This has implications for how 'quantification' in digital work is understood. Whilst there may be a proliferation of (wearable) tools that can package, monitor and direct forms of embodied skill, often through seemingly relentless 'notifications', such work also retains elements of the 'unpredictable and unforeseeable' (Grosz, 2005: 189). As Swan (2013) argues, the 'quantified self' is also qualitative, combining objective data metrics with the subjective experiences of the impact of this data. Such quantifications are entwined with qualifications of the self as workers sense and interpret their environment differently, making adjustments to their incorporation of working tasks. So by creating more tasks that are further proliferated through the variations in how they take place, accounts of digital work intensities must retain the qualitative 'exploration of difference' (Grosz, 2005: 190) in interaction with processes of quantification. I now turn to the spatial senses of intimacy through which these working experiences unfold.

3 Feeling working space

There is no drive in cyborgs to produce total theory, but there is an intimate experience of boundaries, their construction and deconstruction. (Haraway, 1991: 181)

As both personal and professional, private and public, these intimacies of being 'at' work with digital technologies require an approach to 'collectively building effective theories' of space that emphasize 'what it means to be embodied in high-tech worlds' (Haraway, 1991: 173). I outline here how these intimate geographies of the digital occur through what it feels like to be at work. Digital technologies exaggerate the potential inconsistencies between being 'at' work and 'doing' work, meaning working space is constituted by combinations of 'objective' fixed working location and the 'subjective' senses of work taking place. To label this 'workspace' intimate is to emphasize the ambivalent feelings of proximity and distance, connection and disconnection, that constitute experiences of working with and through digital technologies. Gregg (2011: 1) discusses such uncertainties of 'work's intimacies' through her notion of 'presence bleed' in which digital technologies challenge conventions of availability when 'firm boundaries between personal and professional identities no longer apply'. In such digital work she shows how there are:

opportunities for connection, community and solidarity, generating relationships that complicate what we mean by the notion of friendship. At the same time however, technology has played on feelings of instability, threat and fear among workers facing an unstable employment landscape and the death of the linear career path. (2011: 8)

Here, the intimate appears as both a location beyond the formal workplace and a style of working experience in connection with technology. The 'intimate' is a more or less fixed spatial *object*, a sphere in which personal roles are negotiated and reconfigured. Equally, 'intimacy' constitutes *subjective* processes of work taking place through the forming of attachments beyond the self, including with/through technologies.

Geographies of intimacy⁶ might then trace the parameters and follow the movements of this 'subject object' (Suchman, 2011), this disruptive and mobile working space, to understand the ambivalences of digital work. Thinking through this, a first step takes the disruptions of the intimate sphere to consider how digital working space is not a bounded, contained location. Feminist approaches to the 'intimate sphere' highlight its constitution through forms of external penetration that challenge senses of proximity as quantifiably nearby. The closeness of intimacy can be packed with explosive feelings of, and 'unbearable' compulsions to, distance (Berlant and Edelman, 2014). Thus occupying and being occupied 'in' the intimate sphere occurs through complex senses of shared working space through digital technologies that might involve, for example, experiences of regulation and exploitation. As a biopolitical project (Oswin and Olund, 2010), the intimate sphere is governed to shape the working subject, such as through the wearable technologies mentioned above that seek to optimize embodied performances of tasks in and beyond the 'workplace'. As a commercial project (Boris and Parreñas, 2010), the intimate sphere is exploited, undermining the authentic (working) subject, for example through the performances of domesticity and hospitality required by AirBnB hosts (Molz, 2012). In these cases, working space is felt through disruption of the boundaries of the intimate sphere through digital technologies.

A second step examines the movements of intimacy to understand how working space (re)configures feelings of continuous connection to and through digital work. Connecting

with work – understood as knowledge of working activity built through 'close' association and repeat 'encounter' – takes on a mobility through the emergent properties of digital work. The attachments to and encounters with work through digital technologies constitute working connections that travel, mingling with practices that make other places familiar, such as cafes, bedrooms and parks. These mobile connections with work possess an amorphous, spreading presence so that working space has provisional dimensions that evade leading 'to a stabilising something, something institutional' (Berlant, 1998: 287). Thus through these working connections, digital work's intimacy has relational coordinates that resist a static geometry, meaning that working space shapes and is shaped by the wider environment. Intimacy fails to take fixed parameters, to solidify, and instead is 'portable, unattached to a concrete space', and is in fact a 'drive that creates spaces around it' (Berlant, 1998: 284). This moving and enveloping intimacy with work through digital technologies might be sensed through an 'aesthetic of attachment' but without 'inevitable forms or feelings' (1998: 285).

Together then, these disruptive and mobile intimacies of digital working space might be both overwhelming and desirable (Berlant, 2016), requiring close attention to what it feels like to be working. Being bound to work through technology is simultaneously an attachment to working freedoms; to the promise that these digital tools will bring working activities and forms of connection that are better for the self beyond work. As well as disrupting boundaries, this intimate geography involves processes of orientation and disorientation (Ahmed, 2006), a 'feeling out' (Berlant, 2011: 17) of what work might become and what might become work through these extensions and intensifications. Social media operates through such intimate orientations, where personal 'status' and 'feeds' are forms of production and consumption that can simultaneously direct

work (e.g. through self-promotion and 'networking') but also send working activity astray (e.g. 'scrolling' as shifting registers of distracted interaction). In such attachments to diffuse updates and notifications through embodied engagements with technologies, intimacies are where work might be shared and where sharing occurs through work. So as well as focusing on disruptive 'spheres' of work/life interaction, these intimate geographies of the digital also highlight mobile quasi-institutional spatial forms, felt for example in co-working spaces, that operate as shared 'micro-structures' (McRobbie, 2002) sustaining attachments to and through working futures. Working with and through digital technologies then occurs through the intimacies of work taking place that might produce experiences of fulfilment, exploitation, or both simultaneously.

V Conclusion

Feminist critique provides an analytical means to situate work as an empirical focus for digital geographies. Geographers can contribute to debates on the digital economy by examining how working activities take place through and with digital technologies. These technologies extend and intensify work, rendering the boundaries of the workplace emergent. This heightens the ambivalence of work, and the possibilities for working experience to be that of affirmation and/or negation. Building on anti-essentialist and anti-normative politics, the utility of feminist thought for approaching such extensions and intensifications of work through digital technologies has been shown through the lens of intimacv. The uncertainties over when and with what implications working space becomes workplace, or open connection becomes rulegoverned network, requires focusing on what it feels like to be doing work. Knowledge of this intimate geography of the digital combines theory and practice to produce descriptions of the workplace that might themselves become culturally creative acts, to go 'ahead of social practices in order to open a field for them' (De Certeau, 1984: 125). I point to three areas for the continuation of this project of knowing and changing the 'digital workplace' through intimacy.

First, 'postwork' places require further examination to understand the relationship between workplace and worker. Whether 'flexible' or 'insecure', digital workplace and worker are engaged in nuanced mimetic relations. The complex adaptive functions of mimicry, producing contrary effects of travesty, camouflage and intimidation (Lacan, 1979: 99), demand a focus on what workplace representation for/of the worker might mean with digital technologies. The mobility of the workplace and the mix of differently orientated workers that occupy it undermine existing attempts to regulate and manage the quantities and intensities of work, for example through work-life balance policies. Examining the implications of the extending digital workplace for the worker would contribute to debates concerning the working conditions and worker wellbeing at different ends of the income spectrum. Equally, for those interested in measures of 'productivity' and their investigation, there are likely implications for the quality and quantity of work undertaken through these postwork places.

Second, the prevalence of different combinations of bodies and machines 'at' work through digital technologies necessitates greater understanding of evolving forms of worker embodiment. People engage in a range of intensities of interaction with, supervision over and direction by technologies that might make work appear closer or further away. These ambiguous proximities with work through machines, and the implications of work disappearing at a distance (Suchman, 1995), raise questions concerning understandings of skill. If skill is something of the activity of doing work, digital technologies result in bodily elaborations in close connection

with machines that might limit or displace past working 'skills', whilst proliferating the informational content of work (Berardi, 2009). This shifts understandings of human labour with machines from 'the mechanistically automated to the electronically autonomous' (Stacey and Suchman, 2012: 28), perhaps resulting in job losses but also in new styles of working. The question of what constitutes skill in these experiences of proximity through digital work, and how workers train for and improvise through such working environments, is an area ripe for geographical investigation.

Third, the idea and practice of 'feeling working space' opens up further questions concerning politics. The immanent feeling out of digital work provides opportunities for working differently but is also problematic. Employment becomes a nebulous category as 'entrepreneurship' and 'self-employment' expand, and the 'old word unemployment' is no longer recognizable 'in the scene that word named for so long' (Derrida, 1994: 101). Digital technologies might therefore exaggerate the discrepancies between what it feels like to be at work and the distribution of income in society. Greater understanding of the emergent properties of the 'digital workplace' therefore seems vital for those seeking a politics that challenges contemporary and future relationships between work and income.

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Notes

- 1. The differing practices that might constitute 'digital work' are highly uneven globally; however, it is not within the scope of this article to examine these.
- 2. My emphasis is on 'feminism' as a form of political thought extending beyond but arising from (and in turn shaping) experiences of 'women'. This illustrates that what counts as 'femininity', and thus 'women's work', is open to debate. Nonetheless, there is fantastically valuable scholarship by geographers highlighting the continued inequalities, for example in pay, for 'women' in the workplace (e.g. Larner, 1991; Molloy and Larner, 2010; Cox, 1997; 2007; Reimer, 2016; Epstein and Kalleberg, 2004).
- 3. Other terms are used, but the principle is that work does not form the main mechanism for distribution of income in society. For example see Hardt and Negri's (2009: 380) call for a 'basic income sufficient for the necessities of a productive dignified existence' and Ferguson's (2015) discussion of a politics of distribution (as opposed to production) in relation to social welfare programmes in southern Africa.
- 4. For an insight into these debates see Ahmed's (2008) discussion of 'new materialist' claims that feminism is 'anti-biology'. She argues (in an unapologetically provocative manner) that the 'new materialist' scholarship risks turning 'matter' into a 'fetish object'. Instead she suggests that there is a need to at least partially let go of these theoretical 'objects' to find out what happens when (theoretical) things fall apart, given that what counts as biology and materiality within the sciences is itself disputed.
- 5. Noting that there are significant philosophical disparities between the 'materialisms' under the banner of this 'new' feminist scholarship, e.g. see Hein's (2016) discussion of immanence in Deleuze (as taken up in Grosz's vitalist approach) set against the transcendence of Barad's performativity of matter.
- 6. These complexities of intimacy have been of interest to geographers looking to connect the encounters through which embodied experiences of race, sexuality and so on are played out singularly, yet connect with broader societal 'aggregations' and inequalities cut along such 'cultural' lines (e.g. Nayak, 2011; Saldanha, 2010; Valentine, 2008). This 'intimate turn' involves a complex 'politics of proximities' that highlights 'potential shifts in the boundaries of what counts as political subject matter' (Price, 2013: 578), including through a reorientation of the geopolitical (Pain, 2015).

 For London examples of these spaces see the GLA's 2014 report 'Supporting Places of Work: Incubators, Accelerators and Co-working Spaces'.

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References

- Ahmed S (2004) *The Cultural Politics of Emotion*. Edinburgh: Edinburgh University Press.
- Ahmed S (2006) Queer Phenomenology: Orientations, Objects, Others. Durham: Duke University Press.
- Ahmed S (2008) Open forum imaginary prohibitions: Some preliminary remarks on the founding gestures of the 'New Materialism'. *European Journal of Women's Studies* 15: 23–39.
- Ash J (2013) Rethinking affective atmospheres: Technology, perturbation and space times of the non-human. *Geoforum* 49: 20–28.
- Avery G and Baker E (2002) Reframing the infomated household-workplace. *Information and Organization* 12: 109–134.
- Bakker I (2007) Social reproduction and the constitution of a gendered political economy. *New Political Economy* 12: 541–556.
- Banks J and Deuze M (2009) Co-creative labour. *International Journal of Cultural Studies* 12: 419–431.
- Barad K (2003) Posthumanist performativity: Toward an understanding of how matter comes to matter. *Signs* 28: 801–831.
- Bauer RM and Gegenhuber T (2015) Crowdsourcing: Global search and the twisted roles of consumers and producers. *Organization* 22: 661–681.
- Beck U (2000) *The Brave New World of Work*. Cambridge: Polity Press.
- Berardi F (2009) *The Soul at Work: From Alienation to Autonomy*. Los Angeles: Semiotext(e).
- Bergvall-Kareborn B and Howcroft D (2014) Amazon Mechanical Turk and the commodification of labour. *New Technology, Work and Employment* 29: 213–223.

- Berlant L (1998) Intimacy: A special issue. *Critical Inquiry* 24: 281–288.
- Berlant L (2011) Cruel Optimism. Durham: Duke University Press.
- Berlant L (2016) The commons: Infrastructures for troubling times. *Environment and Planning D: Society and Space* 34: 393–419.
- Berlant L and Edelman L (2014) *Sex, or the Unbearable*. Durham: Duke University Press.
- Beverungen A, Bohm S and Land C (2015) Free labour, social media, management: Challenging Marxist organization studies. *Organization Studies* 36: 473–489.
- Birtchnell T and Urry J (2013a) 3D, SF and the future. *Futures* 50: 25–34.
- Birtchnell T and Urry J (2013b) Fabricating futures and the movement of objects. *Mobilities* 8: 388–405.
- Boris E and Parreñas R (eds) (2010) *Intimate Labors: Cultures, Technologies, and the Politics of Care.* Stanford: Stanford University Press.
- Boyer K, Reimer S and Irvine L (2013) The nursery workspace, emotional labour and contested understandings of commoditised childcare in the contemporary UK. *Social & Cultural Geography* 14: 517–540.
- Burchell B (2006) Work intensification in the UK. In: Perrons D, Fagan C, McDowell L, Ray K and Ward K (eds) *Gender Divisions and Working Time in the New Economy: Changing Patterns of Work, Care and Public Policy in Europe and North America*. Northampton, MA: Edward Elgar, 21–34.
- Butler J (1991) Imitation and gender subordination. In: Fuss D (ed.) *Inside/Out: Lesbian Theories, Gay Theories.* New York: Routledge, 13–30.
- Butler J (1993) *Bodies that Matter*. London: Routledge.
- Butler J (2004) Performative acts and gender constitution: An essay in phenomenology and feminist theory. In: Bial H (ed.) *The Performance Studies Reader*. London: Routledge.
- Cameron J and Gibson-Graham JK (2003) Feminising the economy: Metaphors, strategies, politics. *Gender, Place & Culture* 10: 145–157.
- Cockayne D (2015) Entrepreneurial affect: Attachment to work practice in San Francisco's digital media sector. *Environment and Planning D: Society and Space*. DOI: 10.1177/0263775815618399.
- Coe NM (2013) Geographies of production III: Making space for labour. *Progress in Human Geography* 37: 271–284.

- Coe NM and Jordhus-Lier D (2011) Constrained agency? Re-evaluating the geographies of labour. *Progress in Human Geography* 35: 211–233.
- Cohen R (2010) Rethinking 'mobile work': Boundaries of space, time and social relation in the working lives of mobile hairstylists. Work, Employment & Society 24: 65–84.
- Colls R (2012) Feminism, bodily difference and non-representational geographies: Feminism, bodily difference and non-representational geographies. *Transactions of the Institute of British Geographers* 37: 430–445.
- Cova B and Dalli D (2009) Working consumers: The next step in marketing theory? *Marketing Theory* 9: 315–339.
- Cox R (1997) Invisible labour: Perceptions of paid domestic work in London. *Journal of Occupational Science* 4: 62–67.
- Cox R (2007) The au pair body: Sex object, sister or student? European Journal of Women's Studies 14: 281–296.
- Crang M (1997) Picturing practices: Research through the tourist gaze. *Progress in Human Geography* 21: 359–373.
- Crang M, Crosbie T and Graham S (2006) Variable geometries of connection: Urban digital divides and the uses of information technology. *Urban Studies* 43: 2551–2570.
- Cresswell T (2011) Mobilities I: Catching up. *Progress in Human Geography* 35: 550–558.
- Dalla Costa M and James S (eds) (1972) *The Power of Women and the Subversion of the Community*. Bristol: Falling Wall Press.
- De Certeau M (1984) *The Practice of Everyday Life*. Berkeley: University of California Press.
- Del Casino VJ (2015) Social geographies II: Robots. Progress in Human Geography. DOI: 10.1177/0309132515618807.
- De Peuter G (2011) Creative economy and labor precarity: A contested convergence. *Journal of Communication Inquiry* 35: 417–425.
- Derrida J (1994) Spectres of Marx. London: Routledge.
- Donzelot J (1991) Pleasure in work. In: Burchell G, Gordon C and Miller P (eds) *The Foucault Effect*. Chicago: University of Chicago Press, 251–280.
- Dyer S, McDowell L and Batnitzky A (2008) Emotional labour/body work: The caring labours of migrants in the UK's National Health Service. *Geoforum* 39: 2030–2038.

- Elwood S and Leszczynski A (2011) Privacy, reconsidered: New representations, data practices, and the geoweb. *Geoforum* 42: 6–15.
- Epstein C and Kalleberg A (2004) Fighting for Time: Shifting Boundaries of Work and Social Life. New York: Russell Sage Foundation.
- Ettlinger N (2014) The openness paradigm. *New Left Review* 89: 89–100.
- Fannin M, MacLeavy J, Larner W and Wang W (2014) Work, life, bodies: New materialisms and feminisms. *Feminist Theory* 15: 261–268.
- Felstead A, Jewson N and Walters S (2005) *Changing Places of Work.* Basingstoke: Palgrave Macmillan.
- Ferguson J (2015) *Give a Man a Fish: Reflections on the New Politics of Distribution*. Durham: Duke University Press.
- Flisfeder M (2015) The entrepreneurial subject and the objectivization of the self in social media. *South Atlantic Quarterly* 114: 553–570.
- Friedman A (1977) *Industry and Labour*. Basingstoke: Macmillan.
- Fuchs C (2014) Digital prosumption labour on social media in the context of the capitalist regime of time. *Time & Society* 23: 97–123.
- Gabriel Y, Korczynski M and Rieder K (2015) Organizations and their consumers: Bridging work and consumption. *Organization* 22: 629–643.
- Gibson-Graham JK (1996) *The End of Capitalism (As We Knew It): A Feminist Critique of Political Economy*. Minneapolis: University of Minnesota Press.
- Gibson-Graham JK (2006) A Postcapitalist Politics. Minneapolis: University of Minnesota Press.
- Gibson-Graham JK (2008) Diverse economies: Performative practices for 'other worlds'. *Progress in Human Geography* 32: 613–632.
- GLA (Greater London Authority) (2014) Supporting places of work: Incubators, accelerators and coworking spaces. Available at: http://www.london.gov.uk/sites/default/files/supporting_places_of_work_-_iacs.pdf (accessed 18 October 2016).
- Graeber D (2015) The Utopia of Rules: On Technology, Stupidity, and the Secret Joys of Bureaucracy. London: Melville House.
- Graham M (2011) Time machines and virtual portals: The spatialities of the digital divide. *Progress in Development Studies* 11: 211–227.
- Graham M, Hale S and Stephens M (2012) Featured graphic: Digital divide: The geography of internet access. *Environment and Planning A* 44: 1009–1010.

- Greenhill A and Wilson M (2006) Haven or hell? Telework, flexibility and family in the e-society: A Marxist analysis. *European Journal of Information Systems* 15: 379–388.
- Gregg M (2009) Banal Bohemia: Blogging from the ivory tower hot-desk. Convergence: The International Journal of Research into New Media Technologies 15: 470–483.
- Gregg M (2011) Work's Intimacy. Cambridge: Polity.
- Grosz E (2005) *Time Travels: Feminism, Nature, Power*. Durham: Duke University Press.
- Hannam K, Sheller M and Urry J (2006) Editorial: Mobilities, immobilities and moorings. *Mobilities* 1: 1–22.
- Haraway D (1991) Simians, Cyborgs and Women: The Reinvention of Nature. New York: Free Association Books.
- Hardt M (1999) Affective labor. Boundary 2 26: 89–100.
- Hardt M and Negri A (2009) *Commonwealth*. Cambridge, MA: Belknap.
- Hassan R (2003) Network time and the new knowledge epoch. *Time & Society* 12: 225–241.
- Hein S (2016) The new materialism in qualitative inquiry: How compatible are the philosophies of Barad and Deleuze? *Cultural Studies Critical Methodologies* 16: 132–140.
- Hird M (2009) Feminist engagements with matter. *Feminist Studies* 35: 329–346.
- Hislop D and Axtell C (2009) To infinity and beyond?: Workspace and the multi-location worker. *New Technology, Work and Employment* 24: 60–75.
- Hochschild A (1983) The Managed Heart: The Commercialization of Human Feeling. Berkeley: University of California Press.
- Huang S and Yeoh B (2007) Emotional labour and transnational domestic work: The moving geographies of 'maid abuse' in Singapore. *Mobilities* 2: 195–217.
- Huws U (2003) The Making of a Cybertariat: Virtual Work in a Real World. New York: Monthly Review Press.
- Jagger G (2015) The new materialism and sexual difference. *Signs* 40: 321–342.
- James A and Vira B (2010) 'Unionising' the new spaces of the new economy? Alternative labour organising in India's IT enabled services—business process outsourcing industry. *Geoforum* 41: 364–376.
- Jarrett K (2016) Feminism, Labour and Digital Media: The Digital Housewife. London: Routledge.
- Jarvis H and Pratt A (2006) Bringing it all back home: The extensification and 'overflowing' of work. *Geoforum* 37: 331–339.

- Johnson L, Andrey J and Shaw S (2007) Mr. Dithers comes to dinner: Telework and the merging of women's work and home domains in Canada. *Gender, Place & Culture* 14: 141–161
- Jones A (2008) The rise of global work. *Transactions of the Institute of British Geographers* 33: 12–26.
- Kinsley S (2014) The matter of 'virtual' geographies. Progress in Human Geography 38: 364–384.
- Kirby V and Wilson E (2011) Feminist conversations with Vicki Kirby and Elizabeth A. Wilson. Feminist Theory 12: 227–234.
- Kirsch S (2014) Cultural geography II: Cultures of nature (and technology). *Progress in Human Geography* 38: 691–702.
- Kitchin R (2013) Big data and human geography: Opportunities, challenges and risks. *Dialogues in Human Geography* 3: 262–267.
- Kitchin R (2014a) Big data, new epistemologies and paradigm shifts. *Big Data & Society* 1. DOI: 10.1177/2053951714528481.
- Kitchin R (2014b) The real-time city? Big data and smart urbanism. *GeoJournal* 79: 1–14.
- Kitchin R and Dodge M (2011) Code/Space: Software and Everyday Life. Boston, MA: MIT Press.
- Kleine D (2013) Technologies of Choice? ICTs, Development, and the Capabilities Approach. Boston, MA: MIT Press.
- Kwan M-P (2002) Feminist visualization: Re-envisioning GIS as a method in feminist geographic research. Annals of the Association of American Geographers 92: 645–661.
- Kwan M-P (2007) Affecting geospatial technologies: Toward a feminist politics of emotion. *The Professional Geographer* 59: 22–34.
- Lacan J (1979) The Four Fundamental Concepts of Psycho-analysis. London: Penguin.
- Larner W (1991) Labour migration and female labour: Samoan women in New Zealand. *Journal of Sociology* 27: 19–33.
- Larsen J, Urry J and Axhausen K (2008) Coordinating face-to-face meetings in mobile network societies. *Information, Communication & Society* 11: 640–658.
- Laurier E (2004) Doing office work on the motorway. Theory, Culture & Society 21: 261–277.
- Leszczynski A (2014) Spatial media/tion. *Progress in Human Geography*. DOI: 10.1177/0309132514 558443.
- Leszczynski A and Elwood S (2015) Feminist geographies of new spatial media: Feminist geographies of new

- spatial media. The Canadian Geographer / Le Géographe canadien 59: 12–28.
- Liu A (2004) *The Laws of Cool: Knowledge Work and the Culture of Information*. Chicago: University of Chicago Press.
- Manzerolle V (2010) Mobilising the audience commodity: Digital labour in a wireless world. *Ephemera: theory and politics in organization* 10: 455–469.
- Marx K and Engels F (1967) *The Communist Manifesto*, *trans*. Moore S. London: Penguin Books.
- McDowell L (1991) Life without father and Ford: The new gender order of post-Fordism. *Transactions of the Institute of British Geographers* 16: 400–419.
- McDowell L (1993) Space, place and gender relations: Part I. Feminist empiricism and the geography of social relations. *Progress in Human Geography* 17: 157–179.
- McDowell L (1997) Capital Culture: Gender at Work in the City. Oxford: Blackwell.
- McDowell L (2015) Poepke Lecture in Economic Geography: The lives of others: Body work, the production of difference, and labor geographies. *Economic Geography* 91: 1–23.
- McRobbie A (2002) Clubs to companies: Notes on the decline of political culture in speeded up creative worlds. *Cultural Studies* 16: 516–531.
- Mitchell K, Marston S and Katz C (2003) Life's work: An introduction, review and critique. *Antipode* 35: 415-442.
- Molloy M and Larner W (2010) Who needs cultural intermediaries indeed?: Gendered networks in the designer fashion industry. *Journal of Cultural Economy* 3: 361–377.
- Molz J (2012) CouchSurfing and network hospitality: 'It's not just about the furniture'. *Hospitality & Society* 1: 215–225.
- Moore P and Robinson A (2015) The quantified self: What counts in the neoliberal workplace. *New Media and Society*. DOI: 10.1177/1461444815604328.
- Mullings B (1999) Sides of the same coin?: Coping and resistance among Jamaican data-entry operators.

 Annals of the Association of American Geographers 89: 290–311.
- Nardi B, Whittaker S and Schwarz H (2002) NetWORKers and their activity in intensional networks. *Computer Supported Cooperative Work* 11: 205–242.
- Nayak A (2011) Geography, race and emotions: Social and cultural intersections. *Social & Cultural Geography* 12: 548–562.

- Negri A (1989) *The Politics of Subversion: A Manifesto for the Twenty-First Century*. Cambridge: Polity.
- Neilson B and Rossiter N (2008) Precarity as a political concept, or, Fordism as exception. *Theory, Culture & Society* 25: 51–72.
- Oswin N and Olund E (2010) Governing intimacy. *Environment and Planning D: Society and Space* 28: 60–67.
- Pain R (2015) Intimate war. Political Geography 44: 64–73.
- Perrons D, Fagan C, McDowell L, Ray K and Ward K (eds) (2006) Gender Divisions and Working Time in the New Economy: Changing Patterns of Work, Care and Public Policy in Europe and North America. Northampton, MA: Edward Elgar.
- Pollard J (2013) Gendering capital: Financial crisis, financialization and (an agenda for) economic geography. *Progress in Human Geography* 37: 403–423.
- Pratt G (2004) *Working Feminism*. Philadelphia: Temple University Press.
- Pratt G (2012) Families Apart: Migrant Mothers and the Conflicts of Labor and Love. Minneapolis: University of Minnesota Press.
- Pratt G and Rosner V (eds) (2012) *The Global and the Intimate: Feminism in Our Time*. New York: Columbia University Press.
- Price PL (2013) Race and ethnicity II: Skin and other intimacies. *Progress in Human Geography* 37: 578–586.
- Reimer S (2016) 'It's just a very male industry': Gender and work in UK design agencies. *Gender, Place and Culture* 23: 1033–1046.
- Richardson M (2016) Pre-hacked: Open design and the democratisation of product development. *New Media and Society* 18: 653–666.
- Roig A, San Cornelio G, Sanchez-Navarro J and Ardevol E (2014) 'The fruits of my own labor': A case study on clashing models of co-creativity in the new media landscape. *International Journal of Cultural Studies* 17: 637–653.
- Rose G (1993) Feminism and Geography: The Limits of Geographical Knowledge. Cambridge: Polity.
- Rose G (1997) Situating knowledges: Positionality, reflexivities and other tactics. *Progress in Human Geography* 21: 305–320.
- Rose G (2015) Rethinking the geographies of cultural 'objects' through digital technologies: Interface, network and friction. *Progress in Human Geography*. DOI: 10.1177/0309132515580493.
- Rosner D and Turner F (2015) Theaters of alternative industry: Hobbyist repair collectives and the legacy

- of the 1960s American counterculture. In: Plattner H, Meinel C and Leifer L (eds) *Design Thinking Research*. New York: Springer International. 59–69.
- Ross A (2000) The mental labour problem. *Social Text* 63: 1–31.
- Ross A (2008) The new geography of work: Power to the precarious? *Theory, Culture & Society* 25: 31–49.
- Saldanha A (2010) Skin, affect, aggregation: Guattarian variations on Fanon. *Environment and Planning A* 42: 2410–2427.
- Scholz T (ed.) (2013) Digital Labor: The Internet as Playground and Factory. New York: Routledge.
- Sennett R (1998) *The Corrosion of Character: The Per*sonal Consequences of Work in the New Capitalism. New York: Norton.
- Srnicek N and Williams A (2015) *Inventing the Future:*Postcapitalism and a World without Work Verso Books.

 Brooklyn, NY.
- Stacey J and Suchman L (2012) Animation and automation: The liveliness and labours of bodies and machines. *Body and Society* 18: 1–46.
- Steward B (2000) Changing times: The meaning, measurement and use of time in teleworking. *Time & Society* 9: 57–74.
- Suchman L (1995) Making work visible. *Communications* of the ACM 38: 56–64.
- Suchman L (2011) Subject objects. *Feminist Theory* 12: 119–145.
- Sussman M (1999) Performing the intelligent machine: Deception and enchantment in the life of the automaton chess player. *TDR/The Drama Review* 43: 81–96.
- Swan M (2013) The quantified self: Fundamental disruption in big data science and biological discovery. *Big Data* 1: 85–99.
- Terranova T (2000) Free labour: Producing culture for the digital economy. *Social Text* 2: 33–58.
- Turkle S (1997) *Life on the Screen: Identity in the Age of the Internet*. New York: Simon & Schuster.
- Turner F (2008) Romantic automatism: Art, technology, and collaborative labor in Cold War America. *Journal of Visual Culture* 7: 5–26.
- Valentine G (2008) Living with difference: Reflections on geographies of encounter. *Progress in Human Geogra*phv 32: 323–337.
- Vartiainen M and Hyrkkänen U (2010) Changing requirements and mental workload factors in mobile multi-locational work. New Technology, Work and Employment 25: 117–135.

- Vilhelmson B and Thulin E (2001) Is regular work at fixed places fading away? The development of ICT-based and travel-based modes of work in Sweden. *Environment and Planning A* 33: 1015–1029.
- Wainwright E (2010) The office is always on: DEGW, Lefebvre and the wireless city. The Journal of Architecture 15: 209–218.
- Weeks K (2011) The Problem with Work: Feminism, Marxism, Antiwork Politics, and Postwork Imaginaries. Durham: Duke University Press.
- Wills J (2009) Subcontracted employment and its challenge to labor. Labor Studies Journal 34: 441–60.
- Wilson A (2016) The infrastructure of intimacy. *Signs* 41: 247–280.
- Wilson M (2011) Data matter(s): Legitimacy, coding, and qualifications-of-life. *Environment and Planning D: Society and Space* 29: 857–872.
- Wilson M (2012) Location-based services, conspicuous mobility, and the location-aware future. *Geoforum* 43: 1266–1275.
- Wilson M (2014) Continuous connectivity, handheld computers, and mobile spatial knowledge. *Environment and Planning D: Society and Space* 32: 535–555.
- Witheford N (1994) Autonomist Marxism and the information society. Capital & Class 18: 85–125.
- Wright MW (1997) Crossing the factory frontier: Gender, place, and power in the Mexican maquiladora. *Antipode* 29: 278–302.
- Wright MW (2009) Gender and geography: Knowledge and activism across the intimately global. *Progress in Human Geography* 33: 379–386.
- Wright MW (2010) Gender and geography II: Bridging the gap feminist, queer, and the geographical imaginary. *Progress in Human Geography* 34: 56–66.
- Zuboff S (1988) In the Age of the Smart Machine. New York: Basic Books.

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Lizzie Richardson research explores urban life in the UK, drawing on approaches to culture, economy and politics from human geography and beyond. After completing her PhD in the Department of Geography at Durham University in 2014, Lizzie worked as a Lecturer in Human Geography at the University of Cambridge, before returning to Durham in 2016 as a Leverhulme Early Career Research Fellow.