EMBODIED LABOUR IN THE BIOECONOMY

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Introduction

This chapter focuses on feminist work on the political economy of the biosciences. New technologies aimed at extending, altering, isolating or accumulating the body’s living vitality are reworking traditional economic concepts such as labour, work and value. Drawing on an empirical investigation of surrogacy, tissue donation and other forms of embodied participation in the bioeconomy, this chapter seeks to extend and deepen feminist geographers’ analysis of new forms of embodied labour in what has been termed the ‘bioeconomy’.

In policy parlance, the bioeconomy refers to the ‘set of economic activities relating to the invention, development, production and use of biological products and processes’ and ‘a world where biotechnology contributes to a significant share of economic output’ (OECD 2009). This policy agenda is grounded in the view that biological entities possess a latent and untapped value, to be extracted and transformed as engines of future economic growth and development (Birch 2012; Waldby 2002). The late-twentieth-century emergence of a bioeconomy has moved from a ‘niche interest to political mainstream’ as national governments and private investors seek to capitalize on the potential of biotechnology to develop alternatives to fossil fuels and innovate in the sectors of food and materials production (OECD 2018, 11). Although recent public policy interventions concentrate on the industrial biomass and biofuel sector (see OECD 2018), the bioeconomy sector’s concern with technological innovation in the life sciences and medicine more generally provides the background for this chapter’s examination of embodied labour.

From the bioeconomy perspective, life itself is a potential untapped natural resource to be explored and exploited. Biological entities can be disaggregated into their constituent parts and made amenable to manipulation and transformation to generate new products and services. Technologies aimed at modifying forms of life are said to offer solutions to some of the globe’s most intractable problems, from genetically modifying wheat strains to be more resilient to climate change to harnessing the digestive processes of microbes to generate alternatives to fossil fuel. As this chapter will explore, these processes involve tapping into the latent potential for growth and development inside the cells of living beings, marking a new phase in the capitalist search for new resources and new markets. In this new phase of what one critical commentator calls ‘biocapital’: 
life itself has been made amenable in these new economic relations, as vitality is decomposed into a series of distinct and discrete objects – that can be isolated, delimited, stored, accumulated, accorded a discrete value, traded across time, space, species, contexts, enterprises – in the service of many distinct objectives.

Rose 2006, 6–7

Geographical analysis of the political economy of this new biology, in which technologies such as gene editing and other means of manipulating and engineering organisms demonstrate the mutability and indeterminacy of biological life, emphasizes the speculative and financialized dimensions of biocapital (Birch 2016; Rajan 2006). In this literature, the bioeconomy is underwritten by two imperatives: capitalist processes of profit-making through market-based and speculative forms of investment; and biopolitical imperatives for health and the promotion of bodily well-being, from the personal(ized) to the population.

Economic geographers have studied the bioeconomy through the workings of the biotechnology sector for biofuels, pharmaceuticals and the agro-food industry (e.g. Calvert et al. 2017; Horner 2014; McDonagh 2015). The hype surrounding biotechnology in the late-twentieth century spurred a range of studies interested in assessing the sector’s capacities for growth, its institutional dynamics and legal infrastructures, and the blurring of public and private finance that characterized research and development in the sector. The following discussion explores some of the key debates and themes in alternative approaches to the bioeconomy informed by feminist and post-colonial perspectives. Feminist contributions to analysing this new terrain include closer examination of how the health and vitality of some has been made fungible or commodifiable in order to benefit others. This chapter situates the discussion of these phenomena in relationship to what feminist economic geographers and others have identified as patterns of ‘stratified labour’, putting this conceptual frame into conversation with empirical work on surrogacy, human tissue vending and participation in clinical trials.

One of the significant contributions of feminist scholars to theories of labour in the bioeconomy is the development of the concept of clinical labour (Cooper and Waldby 2014). Like other geographical explorations of dimensions of new forms of labour (see for example, work on affective labour), clinical labour has joined feminist economic geographers’ repertoire of critical concepts to situate the harnessing of vitality for another’s use or benefit. In this chapter, I consider how work in clinical labour is characterized by compliance to treatment regimes, the provision of access to one’s bodily (cellular, molecular, metabolic) processes of growth or development, as well as by its marginal status in relationship to other forms of labour in the bioeconomy. Clinical labour is, as Catherine Waldby and Melinda Cooper (2008, 24) write, ‘labour that is “peripheral in terms of rights, but central in terms of the … value produced”’. Although the concept of clinical labour might seem abstract, I argue that it is a powerful way to capture the emergent and unorganized forms of labour central to the bioeconomy. Feminist geographers and others are increasingly engaging with these and other notions of labour that trouble notions of agency in the bioeconomy, offering new directions for research on clinical and other forms of embodied labour.

Clinical labour

Feminist geographical work on gendered labour has elaborated on the concept of stratified labour to critically examine the dynamics of how labour is differentially valued, based on workers’ migration status, gender, race or other axes of difference (Batnitzky and McDowell 2011). Geographical work on the economies of domestic and caring labour in cosmopolitan
cities such as New York and Vancouver also considers how such stratification stretches across space (see England 2015; Pratt and Rosner 2012). For example, feminist geographical work considers how women who migrate to the US or Canada carry out caring tasks for others, working outside the home, often leaving their own children to be cared for by relatives. These geographical mappings of global migrant trajectories provide fruitful insights into the dependencies and vulnerabilities of those who perform the gendered labour of caring for others.

One recognized lacuna in feminist scholarship on the political economy of gendered labour and feminist work on the social reproductive sphere of economic activity is work on the body and the ‘materiality’ of bodily processes (see Meehan and Strauss 2015). The reference to materiality in this context opens up research on social reproduction to the recent writings of feminist scholars who seek to bring the materiality of the body to the fore, interrogating how bodily processes and other dimensions of lively matter can be fruitful and generative sites for new modes of theory and politics. This new materialist feminism seeks to return feminist analysis to the problem posed by the fleshy and differentiated body, and refuses the notion of the body and bodily processes as solely socially constructed (see Colls 2012; Mansfield and Guthman 2015).

These concerns are relevant for new conceptualizations of embodied labour when practices such as surrogacy, tissue donation and participation in clinical trials continue to be ambivalently constituted as labour. Recent feminist scholarship on these practices suggests that labour is a more apt concept for analysing who and what produces value in the bioeconomy, distinguishing concerns over new forms of labour in the bioeconomy from the extensive bioethical and legal debates over property in the body that informed feminist responses to reproductive technologies in the 1980s and 1990s. Property-oriented critiques of surrogacy or the use of bodily tissues arising from fertility therapy, pregnancy and birth (e.g. eggs, cord blood, etc.) centred on the problem – and the potential – of making property claims to the body. These studies highlighted how specific forms of property were granted legal status in ways that property in the body was and is not. Intellectual property is the primary means by which to generate surplus in the knowledge economy and the benefits of patents on new technologies, such as stem cell lines, accrue to those who developed the technology, with the contributors of tissue rendered invisible and denied any property claims to the resulting materials derived from their biological materials (Dickenson 2007). However, the call to assert property claims of ownership or stewardship over one’s body or body parts was deemed by some sympathetic critics to simply mirror intellectual property claims that reward notions of private ownership, rather than to escape them.

More recently, feminist critiques of the production of value in the bioeconomy have centred attention on theorizing women’s bodily participation – as egg donors, surrogates and contributors of biological materials – as a form of labour. One of the most powerful concepts emerging from this scholarship on the gendered dimensions of the bioeconomy is the notion of clinical labour, offering a way to explore the dynamics of bodily participation in the bioeconomy that is obscured by the emphasis on an individual’s claims to a right to property in the body.

Clinical labour as a concept brings to the fore an analysis of the conditions of work for surrogates, experimental subjects and tissue donors. Catherine Waldby and Melinda Cooper (2008) view the emergence of clinical labour as a reconfiguration of the role of reproductive labour in the First World welfare or social state, characterized by a male breadwinner receiving a family wage and supporting a full-time, stay-at-home mother (at least for the middle classes). The decline of state-funded social welfare, the privatization of industry and the deregulation and depression of wages have brought a slow end to this arrangement. The latter half of the twentieth and now the twenty-first century is characterized by an altogether different arrangement, which Waldby and Cooper refer to as the ‘post-Fordist competition state’, characterized by two-wage families, rising costs of housing and healthcare, the emergence of competition between
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localities, regions and nation states for investment and the growth of finance capital. This shift, from a post-war welfare state to a neoliberal competition state, is also congruent with the transformation from nation state-focused policies aimed at governing natality through prohibitions on contraception and abortion and the creation of social welfare programmes supporting maternity (e.g. benefits accruing directly to the mother of children, state-funded childcare, and so on), to a loosening of restrictions on birth control and abortion and the articulation of reproduction as an individual ‘choice’.

These shifts, from post-war state-centred biopolitics underpinned by pro-natalist policies supporting women’s childbearing and national health and social support systems to the late-twentieth-century emphasis on individual responsibility, entailed a whole set of changes to the landscape of reproduction:

These changes dramatically increase the economic and emotional costs of reproduction, and lead women, especially middle-class women, to delay childbearing or avoid it altogether … It is evident, then, that one of the unintended consequences of neoliberalism has been the state’s loss of traction over female reproductive biology and its disengagement from nation-building projects.

Waldby and Cooper 2008, 58

The contemporary landscape of reproduction entails new forms of reproductive biopolitics in which ‘the processes of reproduction have been deregulated, privatized, and made available for investment and speculative development’ (ibid.). These sites of speculation and investment include commercial provision of in vitro fertilization (IVF) services, the emergence of global reproductive tourism and the tissue-intensive fields of regenerative medicine.

In the context of embodied labour in the bioeconomy, clinical labour entails ‘a direct, often highly experimental, involvement of the body’s biology in the creation of surplus value’ (Waldby and Cooper 2008, 65). Historically aligned to other forms of feminized, sexualized or socially reproductive work, which has often been performed by women, clinical labour confounds analyses that take the industrial worker as their model. This new form of embodied labour entails compliance with often-complex medical regimes and aspects of self-monitoring, granting access to one’s bodily vitality.

Clinical labour encompasses the work of surrogacy and forms of reproductive labour such as oocyte or egg donation, including new forms of embodied labour implicated in the tissue economies surrounding contemporary life sciences research and their reliance on parts of the body (organs, tissues, cells) as raw material for further therapeutic or research use. It includes these emergent forms of reproductive labour, as well as forms of experimental labour exemplified by participation in clinical trials. Clinical labour is geographically uneven and, as processes like reproduction become open to transnational flows of money and biological materials, clinical labour becomes globally stratified. For example, in the work of Carolin Schurr (2017) on transnational markets for surrogacy, mobile surrogacy service providers seek out destinations in the Global South that will accommodate a clientele composed primarily of relatively privileged consumers from the Global North. Echoing the ethos of the ‘footloose’ transnational corporate sector, surrogacy agencies seek out destinations where light-touch regulation and a pool of potential surrogates with low labour costs come together to enable individuals and couples to contract surrogacy services (see Map 30.1).

Schurr’s work highlights how the transnationalization of reproduction and the racial hierarchies embedded in Mexico’s post-colonial present meet the desires of (White) clients from the North for children, producing the gestational surrogate who contributes no genetic material
Uncompensated surrogacy only permitted.

No laws governing surrogacy; commercial surrogacy ‘permissible’.

Surrogacy prohibited.

Compensated and uncompensated surrogacy permitted.

No laws governing surrogacy.

Uncompensated surrogacy only permitted.

No information available.

Ukraine: Reports suggest around 500 surrogate births now take place in Ukraine each year; the country’s surrogacy laws permit intending parents to be recognised from conception and do not restrict the amount of money a surrogate may be paid – but do restrict surrogacy to heterosexual married couples.

Canada: Loopholes in Canadian surrogacy law permit payment for surrogacy if money is exchanged outside of the country, making the country an increasingly popular destination for overseas intending parents.

Map 30.1 Surrogacy laws by country.

Note: Surrogacy laws and surrogacy practice vary significantly from state to state. Recent media reports suggest that two new hotspots, Canada and the Ukraine, have emerged as destinations for overseas parents seeking either lower-cost surrogacy services or avoidance of restrictions on surrogacy in their home countries.

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of her own to conception, as a de-personalized ‘womb’ for the gestation and birth of a highly desired child. Schurr writes how ‘the everyday practices of those who select egg donors … are deeply shared by (post)-colonial ideas of white desirability’ (2017, 252). Egg donors and surrogates are stratified and racially marked by their capacities to fulfil clients’ desires for White children. In the complex racial hierarchies of Mexican gestational surrogacy, egg donors are selected according to specific aesthetic criteria that privilege Whiteness, while non-White surrogates perform the relatively invisible labour of gestation and birth.

These stratifications are often left out from popular representations of commercial surrogacy, in which surrogates are positioned as rational actors making calculated choices to benefit their families, or as altruistic agents or mutual beneficiaries of transnational circuits of care, or alternatively as hyper-exploited victims of overseas consumers’ desires for a child. In this context, the ‘larger picture of uneven globalization in terms of international division of labour is frequently obscured or left unnoticed and undiscussed’ (Lau 2018, 672). These global divisions of labour stratify surrogates as clinical labourers whose conditions of work depend on the myriad dynamics at play in particular places and times: the regulatory environment for surrogacy and its accessibility as a market to overseas clients; the particularities of indebtedness in which surrogacy becomes a means to pay off debts rather than a vehicle for class mobility; deeply entrenched notions of genetic parenthood that make surrogacy desirable; the relationship to practices and laws surrounding adoption; the intimate and affective geographies of gestation that shape surrogates’ articulation of emotional attachment or detachment to their pregnancies; and the role of payment as either compensation or wage, permitting the framing of surrogacy to be bound by contract or by notions of giving (Schurr 2018; see also Parry 2015b). Like the kidney vendors in anthropologist Lawrence Cohen’s ethnography of Indian transplant markets, selling and giving parts of one’s body point to a complex terrain of moral hierarchies, medical technique, market structures and ‘disciplinary agencies fashioning particular classes of persons’ (Cohen 2003, 686).

All of these dynamics at play in the practice of surrogacy are opened up by the proposal that surrogacy is a form of labour and thus amenable to economic analysis. However, as Schurr writes, such forms of labour have only recently been given attention by economic geographers (or, I would add, by labour geographers), despite the centrality of surrogacy to the new biopolitics and economics of transnational reproduction. Geographically sensitive research on surrogacy as a form of labour highlights how the on-the-ground context of surrogacy in relation to other forms of labour and broader geopolitical dynamics matters greatly: the emergence of surrogacy ‘hotspots’ around the globe signals how specific locales become concentrated sites for reproductive tourism and nodes for the flows of donor gametes, surrogates and intending parents (Parry 2015b). These global dynamics invite more empirical study of the actual practices of surrogacy, building on the recent and significant contributions of geographers to this field (Bhattacharjee 2018; Lau 2018; Schurr and Militz 2018).

These dynamics also invite reflection on the conceptual frameworks through which surrogacy is framed as labour in ethical and legal debates. In Sophie Lewis’ (2018, 2019) work on surrogacy, the significance of surrogate labour is expanded to encompass what Lewis describes as the paradigmatic experience of all reproductive labour. Lewis (2019, 26) explores surrogacy’s affirmative potential to transform genetic notions of the family by exploding the presumptions of who children belong to, arguing for a radically expanded notion of care ‘based on comradeship, a world sustained by kith and kind more than kin’.

Clinical labour also encompasses the work of tissue donors to provide material resources for therapy and research in the bioeconomy. Human tissue donation itself is a gendered practice, marked by presumptions about the value of donated tissues and by expectations and norms
surrounding the motivations of donors and of recipients (Kent et al. 2018). In Rene Almeling’s (2011) work on gamete markets in the US, eggs and sperm are conceived as distinctive kinds of tissues, not only because of differences in the ease of procuring these tissues but because egg and sperm donors are also perceived to have different and distinctively gendered motivations for donation and different expectations for the eventual use of their tissues. Egg vendors are viewed as desiring a connection to the intended recipients of their tissues and as receptive to the sentiment that their material contributions would create a family; by contrast, sperm vendors are presumed to be motivated by pecuniary interest in payment and to have little desire for emotional or affective connection to the recipient of their sperm.

Almeling’s research illustrates that tissue donation is a gendered practice in which social hierarchies are reinforced and reproduced. Similarly, Bronwyn Parry’s work on sperm vendors and the sperm export market in the US demonstrates that the high demand for American sperm is the effect of longer practices of qualifying such material through detailed profiling of donor characteristics imagined to enable the reproduction of ‘elite’ attributes carried through sperm itself (Parry 2015a). The designation of ‘quality’ also shapes the economy for human tissues as research materials, as Juliane Collard (2018) demonstrates in her study of the production of research embryos in Californian IVF clinics. Embryos designated ‘abnormal’ and therefore unavailable for IVF are repurposed as research materials, often gaining value in the process.

These forms of donation or sale of tissues are often not recognized as work, especially when unremunerated. In the UK, for example, receiving payment for eggs or sperm is not permitted under the Human Fertilisation and Embryology Authority regulations. Egg and sperm donors are permitted, however, to receive compensation for their costs of up to £750 per round of donation. Those undergoing or seeking IVF treatment may be enticed to donate ‘surplus’ materials from their own IVF treatments in order to receive discounted treatment. The reception of these incentives to exchange bodily materials for discounted treatment varies, with IVF clients in the UK much less wary of this mechanism of inducement than clients in Australia (Haines et al. 2012; Roberts and Throsby 2008; Waldby and Carroll 2012).

Donation and sale of other tissues are also invested with gendered and racialized presumptions about the value of donated materials. Research on the promotional campaigns organized by the national blood service in the UK signals how racial categories and classifications are used to simultaneously present blood as being raced, as well as scarce and therefore valuable. These campaigns position Black, Asian and ethnic minority ‘communities’ as lacking awareness of this value, in turn deeming them collectively responsible for addressing the scarcity of particular blood types in the donation economy (Kierans and Cooper 2011).

Finally, clinical labour encompasses the experimental labour involved in participation in clinical drug trials, a now globalized practice in which drug testing for products aimed at markets in the Global North – and particularly the US market, which accounts for almost half of the pharmaceuticals consumed worldwide – is increasingly outsourced to the Global South (EFPIA 2017). The outsourcing of clinical trials to venues outside the largest pharmaceutical markets responds to the desire on the part of drug companies to reduce the labour costs of drug production. Little geographical research to date has focused on these forms of embodied labour, despite the important ways in which trial participation, as a form of temporally intensive but short-term, sub-contracted labour, corresponds to the growth in precarious forms of work in other sectors of the economy (see Strauss 2018).

To summarize, biomedical or clinical labour goes largely unrecognized in geographical analyses of emergent forms of contemporary labour. The work of the clinical labourer is to provide access to one’s in vivo or in vitro biology. Such access may involve compliance with treatment and testing regimes or other forms of medical discipline related to diet, behaviour and other
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patterns of consumption. While most analysis of the bioeconomy foregrounds the role of the knowledge economy in shaping the biotech sector, and often frames discussion of intellectual property rights as the key problem in the bioeconomy, this chapter contends that none of these activities are possible without access to bodies and tissues. Clinical labour is enrolled in emergent forms of ‘primitive accumulation’, characterized by geographical unevenness and even extreme forms of bodily indebtedness. As a concept, it allows discussions of the performance of surrogacy, donation and trial participation to avoid romanticizing participants as passive victims or reproducing the narrative of the selfless and generous donor. Rather, clinical labour suggests that the dynamics of the non-clinical world of labour are also potentially relevant to emergent forms of embodied participation in reproductive, experimental and donation economies.

New directions for research on embodied labour in the bioeconomy

This chapter has reviewed the state of research to date by feminist geographers and other spatially attuned scholars in the social sciences and humanities. Scholarship by feminist geographers on the bioeconomy is still an emerging field in economic geography and the geographies of science and technology. Yet, the research to date demonstrates how emergent and evolving forms of embodied labour are critical to the bioeconomy and to new forms of biopolitics. Like other capitalist formations, the bioeconomy is characterized by uneven development and thus raises questions about the inequitable distribution of risks and benefits from new technologies, particularly for those who make bodily contributions to the services and commodities produced by these technologies. Where do the benefits of these technologies accrue in the context of speculative research programmes, for-profit drug development efforts and privatized healthcare systems? Geographical analysis of neoliberal economies and state-centred biopolitics reveals much about the general tendencies of these processes but less about the differentiated and differentiating nature of their effects on reproductive technologies, drug testing and tissue donation – to name just a few. These are just some of the areas that need further research.

To echo Carolyn Schurr’s (2018) call for more research on reproductive economic geographies, this chapter would add a call for studies of the many different new forms of embodied labour, including reproductive labour, that involve rendering the body’s vitality open to processes of value creation. This could encompass user-generated health data, for example the collection of information from smart technologies that monitor vital statistics or from social media and apps that use algorithms to scan users’ posts for signs of mental ill-health.

It remains to be seen whether those who perform clinical labour will organize as an emerging class of workers. Will the possibilities for collective organization embedded in the concept of labour improve the working conditions of those performing such labour or result in the more equitable sharing of benefits from tissue donation, for example, with those who donate? More detailed, context-rich accounts of the actual existing practices of clinical labour are needed to discern how clinical labour practices – and the affirmative potentials of such labour as a collective form of identity – vary in situ (see Parry 2015b). This is precisely the kind of work that geographers are well placed to do. Geographical approaches can do more than track and map the sites of these transformations, although that is also important work; geographers can also engage in more spatially nuanced theorization and gather the rich empirical evidence needed to study these emergent forms of embodied labour.

In addition, studies of embodied human labour could engage in more productive cross-cutting conversations with animal geographers on the processes by which the living biology of humans and non-humans becomes incorporated into capitalist (and other) economies. Indeed, political ecologists and labour geographers alike could begin to consider the ways in which
concepts like ‘metabolic’ or ‘nonhuman’ labour also encompass many of the characteristics of new forms of human labour in the bioeconomy (Barua 2017; Beldo 2017). All of these new means of monetizing and generating value from the body’s living vitality require careful empirical investigation and the refinement of critical concepts, such as clinical labour, in order to assess their significant yet often under-recognized role in the bioeconomy.

Key readings


References


Embodied labour in the bioeconomy