From worktime reduction to a post-work future: Implications for sustainable consumption governance

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1. Introduction

The proposition of reduced working hours has received notable but inconsistent attention in research on sustainable consumption governance over the past two decades (Schor, 1998; 2005; Sanne, 2002; Kallis et al., 2013; Nässén and Larsson, 2015; Mont, 2016). This ambivalence can be attributed to a material-centric worldview among scholars, policymakers, and advocates that emphasizes biophysical flows and tends to disregard human labour and the resultant incomes that enable and reproduce commercial provisioning activities. Moreover, the pursuit of sustainable consumption has been premised on a discernible conceit – one that is contrary to the historical record and in all likelihood mostly mistaken – that consumer-led innovation rather than novel producer capabilities constitutes the leading edge of social change. Nonetheless, the notion that limiting worktime could lead to a lowering of greenhouse gas emissions and contribute to other environmental and social improvements remains an important tenet of sustainable consumption governance (Fuchs and Lorek, 2005; Keller et al., 2016). While prominent exceptions exist, systematic efforts to pursue worktime reduction as a way to decrease resource throughput have, to date, been constrained by a lack of willingness by policymakers to act on this knowledge (Coote et al., 2010; Knight et al., 2013; Pullinger, 2014).

In the face of this reticence to curtail working hours, the last couple of years have given rise to profound anxiety about the disruptive effects of new digital automation technologies and the prospect of sweeping downsizing in the availability of work (McClure, 2018; Naastepad and Mulder, 2018). Specifically, societal diffusion of artificial intelligence, general-purpose robots and self-driving vehicles is threatening to sharply diminish demand for labour and lead to a future of large-scale unemployment. These circumstances force us to expand the vista of how to think about sustainable consumption governance and to conceptualize anew the associated challenges in terms that go beyond incrementally limiting fossil fuel use and attenuating ecological footprints. The emergent need to address the problems stemming from the scarcity of wage labour, to reconceive the relationship between work and consumption and to re-envision the ways in which households will access goods and services compels consideration of how to manage the transition to a reconfigured...
system of social organization. In other words, it is not hyperbolic to suggest that we stand on the threshold of revolutionary changes that are tantamount to the ruptures that gave birth first to industrialism and subsequently brought forth the onset of consumerism (Landes, 1969; Leach, 1994; Trentmann, 2017).

In formulating an agenda for sustainable consumption governance, this chapter assembles several different threads of contemporary scholarship on how acquisition of the means to consume is likely to evolve in the future. First, existing literature on the environmental and social benefits of worktime reduction is summarized. Second, the chapter reviews recent assessments on the rising wave of digital automation and contrasts forecasts about the degree to which these technologies will displace human workers. Third, the provocations advanced by a group of social theorists who have taken up the theme of a ‘post-work’ society are discussed. Finally, the chapter highlights three issues that will likely become salient in coming years as the challenges of sustainable consumption governance evolve in new directions.

2. Worktime reduction and sustainable consumption

The case for policies that shorten working hours to reduce greenhouse gas emissions and to curb other sources of ecological degradation is compelling. Juliet Schor (2005: 38) articulated the fundamental issue more than a decade ago:

[I]n the global North a successful path to sustainability must confront our commitment to growth and will ultimately entail a stabilization of consumption through reductions in hours of work. Indeed, it is difficult to imagine a globally ethical, timely, and politically feasible resolution to the global ecological crisis in which populations in the North do not reduce the number of hours worked per capita.

The key contention is that improvements in labour productivity can be used either to decrease worktime (hence increasing leisure and opportunities for non-working activities) or to enhance consumption volumes. From the latter decades of the nineteenth century through the first third of the twentieth century, combinations of social mobilization and legislative reform led to a decrease in working hours across most of Western Europe and North America (Negrey, 2013; Ehmer and Lis, 2016). This trend continued after World War II and was especially marked in Sweden, Norway, Denmark and the Netherlands because of political commitment to more equitable distribution of available employment (Eichengreen, 2008). Accordingly, a month or more of paid leave came to be the norm in these nations and female workers were typically entitled to separate and extended periods of compensated time off after giving birth.

This decline in working hours began to stagnate by the end of the 1970s in virtually all countries of the Organisation for Economic Co-operation and Development (OECD) and in some significant cases – notably the United States – average per person worktime increased during the 1980s and 1990s. More recent evidence
suggests that a pattern of extreme working hours has become manifest in a larger number of nations over the past decade, though France and Scandinavia are notable exceptions (Burger, 2015). In other words, ongoing productivity gains have, overall, not facilitated greater leisure or created opportunities for non-wage vocations but instead have been channelled to offset languishing incomes and to augment household consumption.

Furthermore, rigidities in labour markets have made it difficult for workers to negotiate with employers for fewer hours (with proportional reduction in earnings), even if they prefer shorter schedules. As a result, the situation today in the United States (and to a somewhat lesser extent in other OECD countries) compels people to favour consumption over leisure even if a goods-intensive lifestyle is contrary to personal inclinations. While the widespread availability of prepared – and largely unhealthy – ‘convenience’ meals and the seemingly ceaseless proliferation of ‘on-demand’ services are obvious expressions of this condition, other putative consequences include the heightened levels of stress and strained domestic relationships associated with long working hours (Weil, 2014; Fleming, 2017). Proponents of worktime reduction thus claim that a reduction in working hours could contribute to broad improvements in life satisfaction, societal well-being and environmental sustainability (Buhl and Acosta, 2016; Borowy and Aillon, 2017).

Despite the ostensible appeal of a shift toward fewer hours of paid work, it has been difficult to organize political constituencies to successfully press the case (Knight et al., 2013; Pullinger, 2014). Resistance is partly attributable to the fact that people are locked into fixed consumption routines and are disinclined to favour less time in compensated employment (and the lower income that would result). Interestingly, though, there is evidence that preferences change when attention is focused on the future rather than the present (Schor, 2005; Grözinger et al., 2010). Another serious obstacle is that trade unions in most OECD countries have experienced significant decline and particularly in the United States organized labour has been rendered mostly irrelevant in all but a few sectors (Arnowitz, 2015; Geoghegan, 2016). The slackening of the labour market after the 2008 financial crisis further eroded negotiating leverage, but more recent tightening of conditions holds the prospect for at least a modest reversal. At the same time, the weakening or possible elimination of newly instituted regulatory controls on freewheeling bankers suggests that the next meltdown may not be too far away (Hilary, 2013; Wolfe, 2016).

Onset of the next economic collapse will likely accelerate diffusion of the digital automation technologies discussed in the following section. If developments unfold at the pace that some analysts are ominously forecasting, it will obviate most efforts to curtail worktime as a credible sustainability strategy and shift emphasis to different and more immediate priorities. More specifically, we can expect that sustainable consumption governance will be required to expand beyond its predominant emphasis on contracting fossil fuel use consistent with the Paris Climate Agreement and fostering progress on the United Nations 2030 Agenda (Alfredsson et al., 2018; Bengtsson et al., 2018). Policymakers will instead need to pursue a
wider mandate centred on assuring sufficient livelihoods for the swelling ranks of former workers who have lost access to previously reliable forms of wage labour (Ashford et al., 2012). As such, the social dimensions of sustainability will come to play a much more prominent role than is presently the case.

3. **Work in the era of digital automation**

We are currently witnessing early deployment of three overlapping categories of extremely powerful and disruptive digital automation technologies. First, artificial intelligence systems driven by machine learning are upending entire industries and promise to become a new and unprecedented general purpose technology (Bresnahan and Trajtenberg, 1995; Bekar et al., 2018). Applications extend from IBM’s *Watson*, which vaulted to worldwide attention when it defeated two all-time champions of *Jeopardy!* (a US television game show that tests contestants’ encyclopaedic knowledge) to more mundane applications for improving clerical and managerial efficiency. A compelling example of the latter type is being developed by a company called WorkFusion and is evocatively described by author and entrepreneur Martin Ford (2015: 95) in the following terms:

The WorkFusion software initially analyzes the project to determine which tasks can be directly automated, which can be crowd sourced, and which must be performed by in-house professionals. It can then automatically post job listings to websites like Elance or Craigslist and manage the recruitment and selection of qualified freelance workers. Once the workers are on board, the software allocates tasks and evaluates performance. It does this in part by asking freelancers to answer questions to which it already knows the answer as an ongoing test of the workers’ accuracy. It tracks productivity metrics like typing speed, and automatically matches tasks with the capabilities of individuals. If a particular person is unable to complete a given assignment, the system will automatically escalate that task to someone with the necessary skills.

Other modes of artificial intelligence include voice-activated virtual assistants like Apple’s *Siri* and Amazon’s *Alexa* that are rapidly gaining popular acceptance and herald the extent to which similar electronic tools will become embedded across a spectrum of applications.

Second, high-capability and readily adaptable robots are being developed for industrial and consumer activities. Specific devices range from drones that collect data and undertake surveillance to Rethink Robotics’ manufacturing automaton called Baxter to iRobot’s autonomous vacuum cleaner. Japan, due to the country’s ageing population, chronic labour shortage, technophilic culture and dogged search for economic advantage is leading the way in the commercialization of social robots (Robertson, 2017; Sone, 2017).

Finally, driverless vehicles, enabled by complex arrays of environmental sensors, visioning tools and control systems are increasingly able to navigate traffic-congested
roads without the aid of a human operator. Information technology paragons (Google), legacy automobile manufacturers (Ford Motor Company), ride-sharing start-ups (Uber) and others have been vying to establish themselves at the forefront of this hugely lucrative industry. Autonomous cars will eliminate the need for drivers, while concomitantly improving performance and safety and perhaps even overturning the necessity for widespread automobile ownership. One conception of how implementation would develop anticipates users summoning a small electric-powered mobile unit with a smartphone. Vehicles would be dispatched from a centralized staging facility (for example, an underground parking garage), retrieve the passenger and convey her to a selected destination. The car would then either return to a storage depot or proceed to collect the next passenger. While this scenario provides an entrancing vision, initial uptake of autonomous capabilities will likely be by fleet operators that provide relatively routinized activities involving security patrols, goods delivery and municipal services (Markoff, 2016).

The adoption of digital automation technologies creates potential for significant displacement of labour across a vast number of sectors (Brynjolfsson and McAfee, 2014; Ford, 2015). While we must acknowledge that the future is unknowable and that it is extremely difficult to discern how these systems will ultimately evolve, current debates centre on two binary options. On the one hand, there is an optimistic expectation that they will prompt creation of entirely new employment opportunities (perhaps managing self-driving vehicles or servicing social robots). On the other hand, we face acute anxiety that the onrushing changes will give rise to more portentous outcomes that could precipitate mass joblessness.

Most economists and allied travellers embrace the former outlook and contend that if we harken back to the early Industrial Revolution it is apparent that society has gone through numerous phases of technological change. At each juncture, pessimists have anticipated sweeping employment losses, but these outcomes have never materialized. Purveyors of these sunny prognoses are apt to observe that innovation eliminates some jobs, but it also triggers the creation of new – and frequently better and more remunerative – opportunities. A corollary is that it is futile to resist technological advancement and the best strategy is to get ahead of the disruption through a combination of cleverness and guile.

A contrasting stance emanates out of analyses such as the prominent study by Frey and Osborne (2017). This work anticipates that nearly half of all available jobs in the United States are susceptible to replacement by digital automation within the next two decades and there are likely to be fewer ways to reabsorb displaced workers than during prior upheavals. Big losers will be white-collar occupations, for example, underwriters, lawyers and telemarketers. Such assessments anticipate a future of expanding labour informality, economic precarity and social vulnerability (Standing, 2011; Breman and van der Linden, 2014). In its darker expressions, this perspective imagines a future where companies that own the algorithms will propel society toward a techno-feudal system of post-industrial social organization (Ford, 2015; Kostakis et al., 2016).
While popular consideration of different possibilities tends to shuttle between these diametric visions, the menu of prospective alternatives is, of course, much richer and more diverse. It would be just as foolish to fall into the economists’ trap of bountiful opportunity as it would be to preclude that we are inescapably headed toward robot-impelled repeasantization. We have capacity to manage the opportunities afforded by the extraordinary technologies that are currently unfolding by establishing political priorities and making careful policy decisions. It is, though, a very open question of whether we will choose wisely. The next section offers some guidance that might help to increase our likelihood for success.

4. Towards a post-work future?

Over the past two decades, a community of scholars has coalesced around the notion of a ‘post-work’ future in which wage labour declines in social and economic significance (Gorz, 1999; Hayden, 1999; Weeks, 2011; Hunnicutt, 2013; Frayne, 2015; Frase, 2016). While there are important differences among authors regarding how comprehensively jobless this world might be, the basic idea is that the decentring of paid work will enable realization of the leisurely lifestyles that have been imagined since the days of classical economists like Adam Smith and John Stewart Mill. Most famously, this prospect was foretold by John Maynard Keynes (1932 [1930]) in an essay entitled ‘Economic possibilities for our grandchildren’ in which he projected ahead seventy years and predicted that the average working week would be scaled back to just fifteen hours. In formulating this vision, the foremost economist of the twentieth century coined the term ‘technological unemployment’ and described it as ‘a new disease of which some readers may not yet have heard the name, but of which they will hear a great deal in the years to come’ (Keynes, 1932 [1930]: 364).

The post-work authors regard productivity improvements, along with a lack of meaningful non-financial rewards from work, as the impetus for abandoning long-standing policy commitments to full employment. They consider the groundswell of digital automation as a historic opportunity to prepare for a time when, as Keynes (1932 [1930]: 369) put it: ‘the accumulation of wealth is no longer of high social importance’ and we will be able to devote ourselves to pursuits that engender more credible forms of personal satisfaction. While this claim is partly attributable to the currently bewildering pace of change, it is also being propelled by concerns that the pending instability, driven by potent machine-learning algorithms, is more likely this time around to overturn the fortunes of people who work in offices than their counterparts who toil on factory floors. In short, the politics of post-work will be propelled to an outsized degree by the apprehensions of middle-class households.

The question that immediately emerges is how, in the absence of regularized employment, will people create viable livelihoods for themselves? Over the last few years, a common response has been to invoke the idea of a universal basic income (UBI) that would be provided to all societal members without a conditional work requirement and regardless of socio-demographic, income or other factors (Reich,
Friedrich Hayek and Milton Friedman separately advanced this proposition during the 1970s and it attracted support from political figures as diverse as Richard Nixon and Martin Luther King, Jr. In recent years, numerous experiments have been launched to test the viability of UBI in a number of countries including Finland and Kenya and in 2016 it was the focal point of a national referendum in Switzerland (Dörre, 2017; Kangas et al., 2017). Additionally, the Silicon Valley-based social accelerator, Y Combinator, carried out a pilot project in Oakland, California in 2017 and has plans to expand the initiative by recruiting 2,000 people and distributing to each of them US$1,000 per month for three to five years (Mcfarland, 2017).

A major challenge for proponents of UBI is how to generate the necessary revenue, which will need to be considerable if the disbursements are to be maintained over an extended period of time. Interesting from the standpoint of sustainable consumption governance is that several models are being discussed and, at least in one case, there is significant experience, while other alternatives are still at the conceptual stage (Cohen, 2017a). First, the Alaska Permanent Fund has a proven record of accumulating the public proceeds from the state’s oil production and then annually distributing a portion to all residents as a citizen’s dividend (Barnes, 2014; Berman, 2018). Second, UBI could be funded through a so-called common asset trust that imposes a user charge on exploitation of local resources as compensation for appropriation of collectively held assets like groundwater (and potentially applicable to the climate) (Barnes et al., 2008; Farley et al., 2015). Finally, an old idea that has recently been rediscovered calls for a carbon tax that would be partly returned to households as a monthly or annual dividend (Baker et al., 2017; Roberts, 1994).

While these strategies engender significant political challenges, they are typically construed as offering a practicable means of supplementing wage income with alternative sources and could confer a measure of economic security as customary employment contracts. However, some post-work proponents advance the bolder idea of moving toward ‘full automation’. Dubbed the accelerationists, these advocates come together a heady admixture of Marxism, libertarianism and anarchism with unbridled technological utopianism. The aim is to speed up capitalism to a point at which it becomes possible to achieve a kind of liberatory escape velocity and thereby break free of the strictures of the contemporary system (Mackay and Avanessian, 2014; Pitts and Dinerstein, 2017). In a recent review article, Andy Beckett (2017) writes:

Accelerationists argue that technology, particularly computer technology, and capitalism, particularly the most aggressive variety, should be massively sped up and intensified – either because this is the best way forward for humanity, or because there is no alternative. Accelerationists favour automation. They favour the further merging of the digital and the human. They often favour the deregulation of business, and drastically scaled-back government. They believe that people should stop deluding themselves that economic and technological progress can be controlled. They often believe that social and political upheaval has a value in itself.
The accelerationist philosophy cuts across the conventional left–right political divide while simultaneously injecting into the current frayed discourse a riotous and irreverent fervour. Proponents argue that the long-standing mistake of would-be revolutionaries has been to try to overturn capitalism, when the more appropriate strategy is to get the digital wheels spinning so fast that the system destructs on its own accord. A more recent expression, so-called ‘left accelerationism’ advanced by Nick Srnicek and Alex Williams (2015), embraces shattering forms of technological innovation and claims that we need to achieve ‘full automation’ with all possible haste but to complement it with policies to reduce working hours and achieve UBI.

Important questions, though, remain as to whether UBI in any form constitutes a sufficient policy for forestalling economic instability and offsetting precarity among workers released from paid labour by the impending wave of technological innovation (Battistoni, 2017; Heller, 2018). After all, relying on public tax revenue to fund an auxiliary income, regardless of its particular revenue-raising mechanism, is unlikely to alter the balance of power between robot owners and the unemployed multitudes. Under these circumstances, UBI is essentially a transfer payment that is similar to contemporary forms of social welfare. We can also anticipate that the size of the disbursements and the eligibility requirements would be recurrent points of debate with the outcome at any moment determined by shifting political winds. While an unconditional income might provide a financial salve to ease certain sources of instability in the short term, it does not address the underlying problems of structural inequality that will be compounded in the era of increasing digital automation.

A complementary strategy would enable the dwindling number of human workers to acquire the financial proceeds of productivity improvements through ownership of robot-related stock. At present, in the United States, only 52 per cent of the population owns shares and the wealthiest 1 per cent of households possesses 38 per cent of total market valuation (McCarthy, 2016). Improving this situation requires reshaping the contours of asset ownership through implementation of policies to encourage broad-based stock ownership (BBSO) (Blasi et al., 2013; Cohen, 2017b). Distributing more widely the ability to garner dividends and capital gains could diminish structural inequalities caused by the fading availability of formal employment and the decline of wage income.

Analysts who contend that it is unrealistic to extend policy support for BBSO should note that as recently as 2007 the proportion of Americans invested in the stock market was 65 per cent with most individuals of modest means participating primarily through their pension or retirement plans. It is furthermore instructive to adopt a still longer historical perspective, anchored in long-standing efforts to encourage expansive societal participation in a different asset class, namely acquisition of a house. In the United States, only 44 per cent of the population were homeowners in 1940, with the majority living at the time in rental accommodation (Fishback et al., 2013). While it is important not to overlook the inequities that all too frequently have been associated with their design and implementation,
vigorous and coordinated policies over several decades successfully raised national homeownership to a peak in 2004 of 69 per cent (it has since declined to a current level of 64 per cent) (United States Census Bureau, 2018).

Largely due to the effectiveness of facilitating programmes (including extremely generous subsidies delivered through the tax system), for many households, the family residence currently serves as their lone significant asset. It moreover remains the case that the United States is not the only country to assign priority to homeownership and rates are even higher across parts of Europe (Doling and Ford, 2003; van Gent, 2010). The lesson here is that robust policies to encourage stock acquisition could be created along similar lines if there was interest in expanding prevailing political commitments beyond the acquisition of real property.

5. Conclusion

The governance challenges associated with sustainable consumption will likely evolve in coming years as digital automation technologies undermine the availability of wage labour and usher in an increasingly jobless future. Contemporary emphasis on decoupling economic growth from resource utilization will be supplemented by the need to simultaneously facilitate the ability of households to maintain materially adequate livelihoods as the familiar relationship between wage labour and consumerist lifestyles further erodes. Meanwhile, difficult ecological problems are not going to quietly recede. Climate change, as well as more ordinary and yet unresolved dilemmas such as air pollution, groundwater depletion and soil toxicity will continue to undermine health and well-being. Although many of the specifics remain indeterminate, what is probable is that in a post-work future sustainable consumption will become more multi-faceted and complex. Household procurement of goods and services will in the future be less routinized and instead predicated on a more diverse portfolio of activities. As is evermore the case in many other domains, clear distinctions between the provisioning practices of countries at differing levels of affluence will become less distinguishable (Breman and van der Linden, 2014; Deaton, 2018).

Recognition that people will need to forge more adaptable lifestyles opens up a range of prospective issues for sustainable consumption governance. The first task will be to redesign conventional educational systems (Aoun, 2017; Davidson, 2017). Schools remain largely geared to delivering vocational training and to preparing students for a world of work. But what happens when industrial and post-industrial forms of employment have disappeared? Even today, many formerly employed or underemployed people struggle to find satisfying pursuits because the necessity to generate cash income is the predominant consideration and everything else comes to a grinding halt when financially compensated opportunities vanish. The chief objective of post-work education will be, by contrast, to offer instruction on how to live well with more unstructured time and to cultivate interests consistent with personal proclivities and ambitions.
Second, sustainable consumption governance will need to focus on modifying urban infrastructure – especially buildings and transportation systems – for post-work lifestyles. As noted at the outset, this process is expected to be at least as transformational as prior transitions from agrarianism to industrialism and subsequently from manufacturing to post-industrial systems of social organization. While there is no shortage of technological innovations that promise to enhance the sustainability of ‘smart cities’, it is important to recognize that many of these applications are principally intended to improve efficiency, to foster economic competitiveness and to quicken the pace of overall busyness (Bellezza et al., 2017; Bibri and Krogstie, 2017; Martin et al., 2018). Since the various technical interventions that constitute this policy programme do not typically address the confounding relationship between affluence and consumption, the most likely outcome will be the sparking of perverse rebound effects that undermine in whole or part any resultant improvements in urban productivity (Wiedenhofer et al., 2018).

Even iconic technologies of nominally ‘green’ urban living like bicycle-sharing systems are generally embraced by users not out of a commitment to less resource-consumptive lifestyles but because they are cheaper or, at least in some cities, provide a more stylish alternative to existing mobility options (Tironi, 2015; Zademach and Musch, 2018). This paradox stems from the preparedness of policymakers to embrace ‘weak’ sustainability prescriptions but to dismiss recommendations capable of achieving absolute reductions in energy and materials utilization (Fuchs and Lorek, 2005; Spangenberg, 2014; Fuchs et al., 2016).

Fortunately, it is possible to point to several early experiments in how to put into practice the notion of ‘sufficient lifestyles’ (Princen, 2005; Gorge et al., 2015; Spengler, 2016; Daoud, 2018). One interesting area of application is focused on innovative co-working/co-living arrangements that enable the malleability that fluid and less materially invested livelihoods require (Grozdanic, 2016; Kadat, 2017). A property developer in San Francisco, for example, has recently begun constructing dormitories for adults that replicate many of the features of intentional communities without imposing onerous moral requirements and similar projects are springing up in New York and other cities (Kaysen, 2015; Bowles, 2018). It is, of course, premature to formulate a clear understanding of how these adaptive responses will develop over time and become arrayed into patterns that enable people to forge flourishing lifestyles, but numerous processes of learning are currently under way and useful knowledge is being accumulated and demonstrated.

Finally, an archetype of the post-work future may be the acclaimed digital nomad who has no fixed home and seamlessly combines work, leisure and travel, often relocating every few months to a different locale to partake in the novel experiences on offer (Reichenberger, 2017). While this kind of peripatetic and multitasking existence may be both appealing and achievable for ardently cosmopolitan millennials or semi-retired professionals, for less interculturally proficient individuals the future is liable to entail not globetrotting adventure but rather impoverished and unrooted migration, an itinerant existence plagued by weak communal connections.
and continuous economic insecurity. In the absence of uplifting interventions, these people will remain trapped in a listless drift through a fraught workscape that provides only temporary and low-skill jobs that have yet to be consigned to the robots (Bruder, 2017).

For still others unfortunate to be subjected to the cruel realities of internecine conflict, chronic resource scarcity or perpetual environmental degradation (or perhaps all of these adversities at the same time), the second half of the twenty-first century is apt to be even harsher. Indeed, the treacherous journeys that seemingly more and more people around the world have been prepared to undertake in recent years could be a discordant harbinger of what is yet to come. In the absence of practicable arrangements for the provisioning of essential supplies and services – and this may prove to be the ultimate challenge of sustainable consumption governance – it is not difficult to envisage a future of truly dire and overwhelming proportions.

References


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