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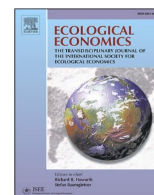

Analysis

Rethinking work for a just and sustainable future

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ABSTRACT

Except for sleep, humans spend more of their lifetimes on work than on any other activity. Many people take for granted the centrality of work in society, conceiving the prevailing 40 h workweeks in high-income countries as a 'natural' configuration of time. However, work and working time have been fiercely contested phenomena and have taken many different forms throughout history as they were reshaped by technological development, social struggle, and changing cultural values. Drawing on insight from history, anthropological research, and time use studies, this paper attempts to broaden the frames harnessing current debates about the future of work. First, we examine evolving conceptions of work in different cultures. Second, we review patterns of working time throughout history, contrasting some widely held assumptions against the background of the *long durée*. Finally, we present ideas and principles to rethink dominant conceptions about the meaning, purpose, volume, content, distribution, and remuneration of work along ecological economic principles of sustainability and justice.

1. Introduction

Accelerated cultural, technological, and environmental change are destabilizing prevailing conceptions of work in the old, industrialized countries, and an ongoing debate attempts to rethink the meaning, volume, and distribution of work (Frayne, 2015; Komlosy, 2018). Work time reduction is increasingly advocated by ecological economists and degrowth proponents as a measure to reduce environmental pressure, reduce unemployment, and enhance human well-being (Latouche, 2009; Kallis et al., 2013; Knight et al., 2013; Pullinger, 2014; Schor, 2015). In addition, debates on work time reductions are gaining traction among political parties (Meakin and Shankleman, 2019), organized labour (De Spiegelaere and Piasna, 2017), and think-tanks (Simms et al., 2010; Stronge et al., 2019). Worktime reduction is also increasingly debated in policy and the media (Spicer, 2020), and pilot projects of reduced working hours have mushroomed across the public and private sectors over the past decade.[1]

Established ideas around work are also eroding because of changing cultural values (Gorz, 1994; Méda, 2010). The centrality of work in life is losing hold among the younger working generation (Hoffman, 2018; Miller and Yar, 2019) and the ongoing COVID-19 pandemic has revolutionized worker expectations on flexibility, even rising questions about the purpose of the office (Nixey, 2020). Work stress and burnout are on the raise (Joyce, 2022). In the United States alone, an estimated 25 million people voluntarily left their jobs in the second half of 2021, a phenomenon the media have labelled *The Great Resignation* (Malone, 2022). In China, a movement known as *Lying flat* (Tang Ping) took off during 2021 as a rejection of societal pressures to overwork (Davidovic, 2022).

These developments notwithstanding, the case for work time reduction is still far from dominant. The dominant line of thinking in business, mainstream policy, and the media remains that contemporary working hours are historically low, and that substantive work time reductions are unfeasible, unaffordable, or undesirable (Cavendish, 2019; Hanna, 2019). Unlike during much of the 20th Century, when work time reduction was conceived as the logical or even inevitable outcome of steady increases in work productivity —Keynes (1930/2010) famously predicted 15-h workweeks to his grandchildren and Nixon foresaw a 4-day workweek in the 1950s[2]— major reductions in working time are today predominantly considered to lie beyond the politically and economically feasible. Mainstream politicians in high-income countries claim that we must work longer to maintain welfare states in the face of

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[1] Countries with recent, ongoing, or proposed trials in the public or private sector include Iceland, Spain, Finland, Norway, the United Kingdom, Gambia, the United States, Gambia, New Zealand, and Japan.

[2] 'Nixon Foresees 4-Day Work Week', *New York Times*. Sept. 23, 1956.

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aging populations (UK Government Office for Science, 2016; Dagens Næringsliv, 2018; French Press Agency, 2021). Most business representatives back this view, alerting of the impacts of work time reductions in market competitiveness (Meakin and Shankleman, 2019). Faced with the pressures of automation and outsourcing, much of the organized labour also demands more work through state-led job creation (ILO, 2019), and praise of work is often backed in opinion polls (Thomasson, 2012; Phillips et al., 2018). As energy return from fossil fuel extraction decreases —suggesting that the era of cheap oil will sooner or later come to an end— the idea that we will have to work more in the future is also to be found in the sustainability literatures (Sorman and Giampietro, 2013), including post-growth visions of work utopias (Mair et al., 2020). Hence, despite a revitalized movement in favour of shorter working time, the idea that substantial work time reductions are unaffordable or undesirable retains strong footing in business, policy, and in scholarly and public opinion.

What explains this apparent lack of faith in the feasibility of major work time reductions at a time of automation and unprecedented work saving technology? The hypothesis motivating this paper is that prevailing cultural values and beliefs surrounding work in Western societies act as a stronger barrier for work time reductions than the technical and economic viability arguments typically evoked by opponents. According to Offe (2013:561) 'the deep traces that more than one hundred years of the hegemony of industrial capitalism have imprinted upon ideas, intuitions, and expectations […] have forged an inter-class alliance founded on a work-centred normative belief system that appears to be largely immune to revision, even under the impact of the manifest changes of social and economic realities'. In effect, the centrality of work in Western culture seems so firmly established that it tends to be taken for granted, with prevailing workweeks being conceived as a 'natural' configuration of time. It is hence forgotten that work and working time have been fiercely contested phenomena, taking different forms throughout history as they were reshaped by the compounding effects of political struggle, technological developments, and changing cultural values (Ackerman et al., 1998; Gorz, 1988; Ehmer and Lis, 2009).

The aim of this paper is broadening the frames that harness current economic and policy discussion about the future of work, drawing on insight from history to rethink established notions of work and working time along ecological economic principles of sustainability and justice. The paper pursues three specific objectives. First, to examine the evolving conceptions of work in different times and cultures. Second, to review patterns of working time throughout history. Finally, to rethink dominant conceptions about the meaning, purpose, content, volume, distribution, and remuneration of work, contrasting some widely held assumptions against the background of the *long durée*. The examination is based on findings from anthropological research, historical archives, official statistics, and a review of the specialized literature. The scope of the inquiry is Western capitalist societies, with a focus on countries with technologically advanced and high-income economies (mostly OECD countries), where the standard workweek typically revolves around 40 h.

Following this introduction, Section 2 discuses and delineates the concept of work. Section 3 reviews changing conceptions of work throughout history. Section 4 reviews working time through different historical periods. Building on insight from these sections, Section 5 sets out to rethink work and working time in the face of accelerated environmental destruction, raising inequalities, fears of massive unemployment from automation, and growing discontent with work-centred lifestyles.

2. On the concept of work

The concept of work invokes an extremely varied set of ideas, and its meaning remains contested in both popular and scholarly usage (Frayne, 2015). In its broader meaning, work is defined as 'an activity involving mental or physical effort done to achieve a purpose or result' (The Oxford Dictionary of English). Such broad meaning has currency in the daily usage of the term, where no strict delineation applies between e.g., paid, and non-paid activities. In economic and policy debates, however, the dominant notion of 'work' has acquired a much narrower meaning. It does not extend to cover the activities required for the reproduction of life such as caring and housekeeping, neither the broader set of things we do on our own initiative without expecting remuneration. The dominant conception of work in Western capitalist countries —the work we 'have', 'search', and 'offer'— is confined to the set of activities formally recognized by society as *worthy of remuneration* (Gorz, 1988). Hence, in its most widely accepted understanding, work still means today *paid labour* (Komlosy, 2018).

As naturalized this meaning may look today in the Western civilization, this notion of work was largely absent in other times and cultures (Chamoux, 1994). Most preindustrial societies were not organized around work, and many indigenous societies lack in their language any term we can equate with the current understanding of work (Méda, 2010). The words used to express related ideas often have either a much narrower meaning (e.g., to designate concrete activities) or a much broader one (that may include e.g., the shaman's meditative attitude) (Naredo, 2002).

Ancient Greece offers a good example of a society not structured around work. Arendt's (1958/1998) detailed etymological account shows that —like many primitive societies — the ancient Greeks did not have any single term embedding the wide range of activities we currently collapse under the term 'work'. Their vocabulary contained a variety of concepts to designate different activities, subject to different levels of social status. For example, they distinguished 'labour' (*ponein*) —designating daily activities involving effort, pain, and trouble leaving no durable trace (e.g., cleaning)— from 'work' (*ergazesthai*) —designating activities oriented to produce durable goods (e.g., fabrication of tools and buildings)—, the former having a lower societal status than the latter. Languages in the Middle Ages also lacked a term comprehending the range of activities we now call work. Furthermore, neither do we find in the language of many primitive, ancient, or medieval societies a clear differentiation between productive and unproductive work and between paid and unpaid activities (Thompson, 1967; Méda, 2010; Komlosy, 2018).

Work as we know it today is a category established under industrial capitalism around the time economics took form as a discipline (Gorz, 1988). It was first introduced in the 18th Century and consolidated about a century later through legal codification. Furthermore, it was only at the turn of the 19th to the 20th Century that work (as wage labour) became the central source of survival, personal identity, and social mobility in industrialized countries (Gomez-Baggethun and Naredo, 2020). Today's common sense of 'work' is thus a creature of industrial capitalism, which meaning bears little in common with ones that prevailed in other times and cultures (Gorz, 1988).

3. The evolving conception of work

According to Ellul (1954/2003), the idea of a 'work ethic' was incomprehensible to pre-industrial cultures. For the primitive person, and over most of the course of humanity, Ellul claims, work was a curse, not a virtue. Refrain from consumption was favoured over hard work, mostly kept to the necessary minimum to make a living. This hostile view towards work prevailed throughout antiquity (Arendt, 1958/1998), the Middle Ages (Federici, 2004), and early modernity (Weber 1905/2013), until being finally overthrown under industrial capitalism (Lafargue, 1883/2020).

3.1. Work as a curse

Disinterest for work was a persistent feature of primitive societies, especially among hunter gatherers (Sahlins, 1972) and pastoral nomadic cultures (Lafargue, 1883/2020). Historical and anthropological

accounts suggest that accumulation among these cultures was rare, not necessarily because they lacked the technical means to do so, but because they considered that stocks were already available out in nature and that it made no sense to storage them, let alone carry them around (Naredo, 2015: 76). Hunter gatherers collected primarily what they needed, and many indigenous cultures regularly practiced ritual destruction of surplus (Rappaport, 2000). Statements by hunter gatherers collected in anthropological research illustrate a cosmology of abundance (Lewis, 2008) and contempt for work (Sahlins, 1972). In words of a Kashe a! Kung man: 'Why should we cultivate if there are so many nuts in the world' (Lee, 1979).

If needs can be satisfied by either producing much or desiring little, most primitive societies opted for the latter in order to work less (Ellul, 1954). Productivity gains from technology did not invariably lead to more output. A major technological innovation, the introduction of the steel axe among the group of Australian indigenous peoples known as Yir Yoront, led not to more intensive production but to more sleeping, because it allowed subsistence requirements to be met more easily (Sahlins, 1972). According to Mumford (1934/2010: 102), in many preindustrial cultures, production 'remained a simple necessity of existence, often grudgingly met […]. When their living became easy, people did not go in for abstract acquisition: they worked less'.

The attitude towards technology as a work-saving (instead of product-expanding) device prevailed over Antiquity,[3] during which philosophers kept teaching contempt for work (while keeping, we must add, their set of slaves working for them). Herodotus identifies contempt for work as an attribute of the classical Greeks at the Zenith of their culture, and Socrates and Plato share an understanding of work as a source of degradation of the human being (Arendt, 1958/1998).

Work was considered a servile activity of slavish nature. Ancient Greeks —Arendt writes— considered free activities those that were performed without expectation of any instrumental counterpart, such as those devoted to philosophy, arts, sports, and politics. Any activity motivated by profit or performed in exchange for a payment was considered unworthy of a free person. Arendt (1958/1998: 81) notes that contempt for work originally arose 'out of a passionate striving for freedom from necessity'. Those who worked, either by force or for a salary, were considered inapt for involvement in public affairs. Work was only worthy of slaves, defeated enemies that had chosen life over freedom, at the time considered proof of a servile spirit. Free citizens were expected to devote their full time to the public sphere (politics) (Gorz, 1988: 30–31).

The conception of work as a curse continued over Roman times, as the etymology of work illustrates. The words for work in French (*travaille*) and Spanish (*trabajo*) derive from the Latin *tripalium*, an instrument of torture (Febre, 1948, cited in Arendt, 1958/1998: 80). Cicero compared wage labour to the condition of slavery (Cicero (44 BCE/1891). Herodotus wrote that he cannot affirm that the Greeks had received contempt for work from the Egyptians, as it also prevailed among Thracians, Scythians, Persians, and Arabs (Mumford, 1934/2010, cited in Naredo, 2002).

Written legacies obviously overrepresent the view of aristocrats, whose contempt for work has been a constant throughout history (Veblen, 1934). Studies with attention to class have prompted a reassessment of attitudes towards work and leisure in the classical era, noting that working citizens were not passive recipients of the aristocratic view, but instead responded with own perspectives that both challenged and accepted the aristocratic ideal (Sylvester, 1999). As we shall see, however, praise of leisure and contempt for wage labour were by no means monopoly of elites, and often extended across all social classes throughout preindustrial history.

3.2. Work as burden and virtue

Early Christian positions on work did not differ essentially from those of the Greeks and Romans. Work was portrayed as a punishment with origin in a biblical curse and was not seen as individually or socially desirable, a position otherwise coherent with the plead for detachment from mundane cares that prevailed in Christian medieval Europe (Naredo, 2002). The French Waldeises, and some religious orders like the Franciscans and the Spirituals refused to work and, wishing to be free from mundane cares, relied on begging for their survival (Federici, 2004: 42).

Mumford (1934/2010: 32) states that 'If the gospel of work took form over this period, it didn't dominate it', and that the spirit of play was understood and fostered alike by rich and poor (see also Reeves, 1995). In the late 14th Century, when peasants in Western Europe started to free themselves from serfdom, persuading people to work was plagued with difficulties. The Black Death (1347–1351) killed a third of Europe's population leading to a massive scarcity of labour and undermining work discipline. Confronted with the possibility of sudden death people no longer cared to work (Schor, 1993) but tried to have the best of times without thought of the future (Federici, 2004). Labour scarcity flipped power relations upside down in favour of the peasantry; peasants refused to pay rents and wages soared (Dyer, 1968). To restore labour services, European countries passed new regulations to limit the cost of labour by fixing the maximum wage, and by punishing wandering and refusal to work, but these attempts largely failed, eventually leading to a prolonged period of peasant revolts (Federici, 2004: 58).

By the 15th century serfdom in Western Europe was severely weakened, but enclosure and privatization of common lands subsumed peasants in a new relation of dependence that employers exploited to reduce salaries and prolong the working day. This triggered a change of peasant's attitude towards wage: while in the Middle Ages peasants could see wages as a tool to gain freedom, once they lost access to land, wages came to be seen as an instrument of enslavement. This has been told to explain the increase of the number of 'vagabonds' and 'masterless' men, who preferred to risk enslavement or death (as prescribed by the legislation passed against them) rather than work for a wage (ibid: 108). Over the 16th and 17th Centuries, many landless peasants opted for the risk of being hanged above submitting to the new working conditions. Gerrard Winstanley, leader of the Diggers, declared 'it did not make any difference whether one lived under the enemy or under one's brother, if one worked for a wage' (ibid: 72).

The Middle Ages represent however a transitory stage between the ancient and present understandings of work. Komlosy (2018: 10) describes the medieval conception of work as a 'Janus-faced juxtaposition of burden and fulfilment'. On the one hand, work was conceived as hardship. On the other hand, it started to be positively connoted as a source of dignity and as a service to God. This conception gained strength in the late Middle Ages, ultimately breaking with the ancient view. Benedict's *ora et labora* (pray and work) gradually made its way in the monasteries. Work was gradually wrestled from contempt until finally turned into virtue. This shift, Komlosy argues, established the seed of the current work-centred society.

3.3. Work ethics and discipline

Various authors have argued that key to explain the peasantry's refusal to work was the absence of a 'capitalist spirit', a *homo economicus* responsive to the signals of economic stimulus. Thompson (1963: 392) claims that neither the peasant nor the artisan of the unenclosed village measured the returns of labour primarily in economic terms. Weber

[3] A poem of Autiparos (cited in Marx, 1867/2009: 498) celebrates work-saving by the invention of the water mill as follows: *Spare the hand that grinds the corn, miller girls, and softly sleep. Let chanticleer announce the morn in vain! "Dea has commanded the work of the girls to be done by the Nymphs; and now these skip lightly over the wheels, so that the shaken axles revolve with the spokes and pull round the load of the revolving stones. Let us live the life of our fathers, and let us rest from work, and enjoy the gifts that the goddess has sent us".*

(1905/2013: 60) writes that “A man does not ‘by nature’ wish to earn more and more money but simply to live as he is accustomed to live and to earn as much as is necessary for that purpose. Wherever modern capitalism has begun its work of increasing the productivity of human labour by increasing its intensity, it has encountered the immensely stubborn resistance of pre-capitalistic labour”. In the absence of a capitalist spirit driven by the profit motive —these literatures suggest—, economic incentives proved ineffective: ‘When enough is earned the peasant leaves industry and moves to the village, the artisan goes on a drunken spree’ (ibid: 393). To Weber (1905/2013) and Fromm (2001) the missing element was an ‘inner compulsion’, an intrinsic motivation more effective in motivating work than any external economic incentives. In words by Thompson (1963: 393), the labourer had to be turned ‘into his own slave driver’.

The famous Weberian thesis links the work ethic to the expanding influence of Puritanism and Calvinism in the psychic development of the middle classes over the 16th and 17th centuries.[4] To Weber, this was a main contribution of the Reformation that profoundly affected the view of work, dignifying even the most mundane professions. Along similar lines, Tawney (1926/2017) stresses the role that Protestantism allegedly played in spreading the values of self-discipline, individualism, and acquisitiveness.

Praises to a life ordered by work and by monastic and military regimentation suited the needs of the nascent capitalism. The ringing of the bells in the monasteries and of the trumpets in the camps and barracks, was soon imitated by the siren of the factories that called to submit to work at the pace of the clock (Mumford, 1934/2010). Detached from the rhythms of nature, time became money, and the use of the clock spread the idea of ‘lack of time’ (Illich et al., 1973). Thompson (1967) notes that in the 16th Century, by the time the bells of the clocks began to ring at regular intervals, work had been erected in supreme value.

But if a work ethic was firmly established in the industrial and merchant bourgeoisie of the 16th Century, it would still take centuries to break down contempt for wage labour among the peasantry; getting the workers from domestic industries to the factories would long remain a daunting task. ‘The woollen weavers —Thompson (1963: 337–338) writes— disliked the hand-loom factories: They represented first, the discipline; the factory bell or hooter; the time keeping’ […] ‘to enter the mill was to fall in a status from a self-motivated man, however poor, to a servant’. Employers complained that weavers kept ‘Saint Monday’ —the tradition of absenteeism on a Monday (Hodgkinson, 2005)—, and sometimes even made a holiday on Tuesday (Ackerman et al., 1998). According to Thompson (1963), it is not until the middle 19th Century that we can glimpse ‘the kind of temperate, prudent, and responsible worker, proud to possess a watch’.

3.4. Economic glorification of work

The philosophy of the Enlightenment introduced a secular understanding of work, freed from its dual religious character. Work was finally relieved of its connection to toil and now portrayed as a virtue and as a pathway to prosperity and happiness (Komlosy, 2018). Modern economics completed this change of attitudes, marking the decisive break in the western history of work (Gorz, 1988; Naredo, 2002). Work came to be venerated as a ‘productive activity’ and measured by its contribution to economic output. In *The wealth of nations*, despite keeping associations of work to ‘toil and trouble’, Smith (1776/1976) praised work as the primary source of wealth, a view reinforced by the labour theory of value of Ricardo and Marx. Malthus (1798) attacked the poor laws (a system that provided free food in the Parishes) because they entitled the poor to leisure, killed the ‘spirit of industry’, and diminished the will to save and accumulate. The New Poor Law of 1834 discouraged providing relief to anyone who refused to enter a workhouse[5].

Appetite for accumulation and growth changed attitudes towards work and technology. Work was no longer a means to meet one’s needs of existence, but a means of accumulation intended to serve the insatiable wants of the *homo economicus*. Technological innovations that increased productivity were no longer seen as *work-saving* developments but as *product-expanding* ones (Naredo, 2002). Exploitation of work to maximize production and growth was the new dogma. Organizational, legal, and technological measures followed to maximize the exploitation of work, now portrayed as the key driver of progress, growth, and prosperity (Komlosy, 2018: 13).

It is by this time, around the 18th Century, when the current understanding of work in Western culture is crafted, and when its institutionalization as central source of income and status is consolidated (Gorz, 1988). Work appears for the first time as a homogeneous category, measurable in units of time or value (Ellul 1954/2003: 331). It is now univocally identified with ‘productive’ (value-adding) labour, excluding all non-commodified activities (Gomez-Baggethun and Naredo, 2020). Concomitantly, leisure is downgraded to a merely passive and parasitic nature, corrupting ancient meanings of the word, which also comprehended the idea of an active and creative leisure (e.g., Cicero’s *otium cum dignitate*) (Illich, 1978). Work gradually became the main marker of status and identity in industrial societies, as well the most important vector for societal belonging, recognition, and integration.

4. Working time throughout history

Modern descriptions of preindustrial working conditions often revolve around a life of toiling and long working hours (Mathis, 1975). An influential account in work debates further contends that industrial capitalism reduced human toil and that current working hours are historically low, a position typically defended by comparing the modern forty-hour week with its seventy- or eighty-hour counterpart in the 19th Century (see e.g., Hanna, 2019). An alternative body of literature however contends that before capitalism, many people did not work very long hours, the tempo of life was slow, the pace of work relaxed, and leisure abundant (Lafargue, 1883/2020; Black, 1985; Sahlins, 1972; Schor, 1993; Naredo, 2002; Rogers, 2013).

4.1. Primitive societies

Conventional accounts have long portrayed primitive societies living ‘a desperate unremitting struggle for subsistence, a war waged against a harsh Nature with death and disaster awaiting the unlucky’ (Black, 1985: 24). Anthropological research however suggests that primitive societies often had better leisure to work ratios than industrial ones (Sahlins, 1972; Lee, 1979; Solway and Lee, 1990; Bird-David et al., 1992; Lee et al., 1999; Clark, 2008). Sahlins (1972) famously concluded that hunters and gatherers dedicated only between 15 and 20 h a week for subsistence activities, and that leisure and sleeping time were generally abundant.

More detailed data on subsistence and reproductive activities,

[4] Despite its popularity, the Weberian thesis has been questioned in the economic and sociological literatures (e.g., Grossman, 2006). An alternative line of argumentation is that changes occurred the other way around, with changes in material and technological conditions forcing adaptations from religions. Whether and to which extent it applies to religions other than Christianity has also subject of scholarly discussion (e.g., Turner, 1974).

[5] An exception among classical economists is Mill (1850), who embraced ‘the gospel of leisure’, advocating work sharing and reduction. Marx vision on work is ambiguous. On the one hand, he denounced alienation of labor under capitalism (Marx, 1844) and famously claimed that freedom starts where work ends (Marx, 1991/1894). On the other hand, he argued work to be the ultimate determinant of human nature (ibid 1844).

including hunting and gathering, production and maintenance of tools and housing, domestic tasks, and childcare suggest an aggregated time use ranging between 40.1 and 44.5 h per week (Lee et al., 1999). If these data are accurate, even if activities of domestic work and reproduction (typically excluded in the category of work registered in current official statistics) are accounted for, the amount of time devoted by these societies to socially necessary activities was not substantially higher than the present work week in most industrialized countries (Naredo, 2002). Based on a review of anthropological research, Clark (2008: 65) concludes that working time in hunter gatherer societies was shorter and much less monotonous than that of their agrarian counterparts (see also Harari, 2016).

4.2. Antiquity

Among Egyptians, Greeks, Romans, and other peoples of Antiquity, work was interrupted by numerous festivals held to celebrate the return of the seasons and to honour the gods (Scullard, 1981). The Roman calendar had many public holidays (*feriae*), and its number increased through antiquity (Aldrete, 2004). During holidays, public business was suspended, and only work 'for the gods' or for preserving life was considered excusable. According to Scullard (1981), some priests were not even allowed to see work done, and also slaves and draft animals were expected to rest. Other days like the first day of the lunar month (*Noemiah*), the Olympic games, and various anniversaries, were also celebrated (*dies festi*), de facto representing holidays in the modern sense of days off work (ibid). According to Wasson (2018), free Romans worked a 6-hour day, and during the time of Emperor Claudius (41–54 CE) there were 159 days free of business.

We must recall that written legacies conceal the accounts of those who carried the bulk of hard and unpleasant work, disproportionally performed by women, servants, and salves. The scant literature on housework in ancient times, indicates that daily chores started with the sunrise, and included cooking, baking, and brewing, cleaning, washing clothes, sewing, and caring of child, elders, and pets (Mark (2017). It is further noted that women's household chores were often combined with jobs at the workplace, such as brewing of beer or manufacture of textiles (*ibid*).

In many ancient cultures slavery and serfdom accounted for a large part of the economy (Piketty, 2020). While worktime estimations are rarely to be found, it is known that much hard and unpleasant work was covered through different forms of statute labour. Egyptians used statute labour in public works, ranging from construction of pyramids to creation of levees, and to the removal of mud from the canals left by the risings of the Nile (Steinkeller and Hudson, 2015). Also under the Roman Empire, certain social classes owed personal services to the state in terms of compulsory labour for works such as the upkeep of roads, bridges, and dikes (Brunt, 1980).

4.3. Middle ages

In Western Christian countries, leisure time increased over the Middle Ages, following increased labour productivity from expanded use of wind and waterpower (Naredo, 2002). Early Christian contempt for work materialized in the enactment of numerous holidays, that in many villages of Christian Medieval Europe covered almost half of the days of the year (Cheney, 1961; Mumford, 1967). Schor (1993) notes that these included not only long vacations at Christmas and Easter, but also many saints' and rest days. There were labour-free Sundays, and when the ploughing and harvesting seasons were over —Schor suggests—, the peasant had abundant rest. Weddings, wakes, and births often involved week-long celebrations, and when wandering jugglers or sporting events came to town, peasants expected time off for entertainment (Naredo, 2002).

Under the ancient regime, the laws of the Church guaranteed 90 days of rest, 52 Sundays and 38 holidays, during which it was strictly prohibited to work (Lafarge, 1883/2020). Building on Rogers (2013), Bennett (1937) and others, Schor (1993) estimates that medieval peasants enjoyed anywhere from 8 weeks to half the year off, and a relaxed tempo of life and work. She claims that average holiday time in medieval England took up about one third of the year. Ancient regime France is reported to have guaranteed fifty-two Sundays, ninety rest days, and thirty-eight holidays, and in Spain, travellers reported holidays to total 5 months per year (Rodgers, 1940, cited in Schor, 1993). Chajanov's figures from villages in Czarist Russia, show a fourth or fifth of peasants' days devoted to repose (cited in Black, 1985: 23).

Accounts on the length of the workday vary across consulted sources and economic sectors. One body of literature suggests that the average working day in the Middle Ages was no longer than it is today (Bennet, 1937). Rogers (2013) situates the medieval workday in not more than 8 h, and Schor (1993) cites archival accounts that situate the workday of 14th Century artisans on a yearly average at 9 h (exclusive of meals and breaktimes) and the workday of masons at 8.6 h. Other sources suggest longer workdays. Shaffer (1962), for example, contends that the workday typically lasted from dawn to dusk, and cites a royal statute under Henry VII in 1495 that set the working day during Sumner from 5 am to 7 or 8 pm with 2 h of rest.

Housework and statute labour are once again a blind spot of most worktime studies. Written accounts from Medieval times however reveal long hours devoted to daily chores, ranging from cleaning, cooking, brewing, washing, and keeping pantries, to keeping the fire, tending to livestock, caring for children and elders, and keeping wolfs and rodents away (Bayard, 1992). Despite slavery, and later also serfdom, declined through the Middle Ages, various forms of statute labour retained their importance. A prominent example was the *corvée*, regular and intermittent work that vassals owed their lord (Squatriti, 2002).

4.4. Early modernity

The escalation of festive-religious holidays came to an end around the mid-17th Century, as new conceptions of work consolidated with the Reformation, and as the rising industrial and commercial bourgeoisies led a crusade against holidays. The large number of existing holidays was now seen as an unaffordable cost, a waste of time stolen from work, and with the expanding influence of Protestantism many holidays were abolished (Lafargue, 1883/2020). The bull of Pope Urban VIII, *Universa per orbe* (1642) brought the first significant reduction of feast days and was thereafter followed by many others (Naredo, 2002). In 1666, Perefixus, archbishop of Paris, suppressed 17 holidays in his diocese (Lafargue, 1883/2020). Religious holiday cuts were partially replaced by new civil festivities and celebrations, but the net balance was negative.

Accounts on working hours again vary across sources, regions, and economic sectors. Some authors suggest that down-to-dusk workdays were the rule (e.g., Mathis, 1975), whereas others claim that in many sectors the workday remained low compared to today's standards. Weber, for example, writes that in various branches of the European textile industry 'The number of business hours was very moderate, perhaps five to six a day'. He further depicts a relaxed working tempo: 'A long daily visit to the tavern, with often plenty to drink, and a congenial circle of friends, made life comfortable and leisurely'. Sources also reveal much variation in working hours within Europe. A royal edict of 1593 under Philip II of Spain established an 8-h workday for factory and fortification workers. By contrast, Shaffer (1962) cites a contemporary statute under Elizabeth I of England that decreed a down-to-dusk workday, and estimates the late 17th Century workday in England at 12 h with a 2-h break. A Lancashire wage assessment from 1725 situates the workday from 5 am to 7 or 8 pm in March–September, and thereafter from dawn to dusk, with 2 h of repose (Thompson, 1967).

Data on working time by slaves and other forms of statute labour are once again hard to find. One source suggests that, on a typical plantation of the colonies, slaves worked "ten or more hours a day, 'from day clean

to first dark,' six days a week, with only the Sabbath off' and that 'At planting or harvesting time, planters required slaves to stay in the fields 15 or 16 h a day' (Digital History, 2021). The system of *corvée* continued in early modern Europe and remained an important institution in the feudal economic system of the Holy Roman Empire through the 17th and early 18th Century, until it was abolished in Europe during the revolutions of 1848.

4.5. Industrial capitalism

Working time increased dramatically with the industrial revolution, peaking at around 3500 h per year in the mid-19th Century (Mathis, 1975; Voth, 2000; Schor, 2008). Peasants dispossessed of their land migrated from rural areas to the urban factories, where time was no longer tied to natural rhythms, making it possible to work year-round. In addition, artificial lighting made it possible to work during the night. Estimations by Voth (2000) indicate that average hours of work for male workers in England increased by 30% between the 1750s and 1800, and by 20% between the 1750s and 1830, although other authors suggest a less dramatic increase (Clark, 2008). Records indicate work schedules of 12–16 h per day, 6–7 days per week, sometimes making 70–80-h workweeks and 3000–3500-h work years (Schor, 2008). Thompson (1963: 373) notes that 'in the [19th Century England] mills dependent upon waterpower, night work or days of 14 and 16 h were common'.

The push for shorter working hours gained momentum from the early 19th Century. Following pressure from organized labour, work hours in industrialized countries decreased by almost half between the 1830s and the first half of the 20th Century, when the 8 h and 5-day workweek became the standard. Since then, worktime reductions slowed down, but continued in countries like Germany, where annual working hours fell from 2150 in 1960 to 1650 in 1990 (Gorz, 1994), and down to 1332 in 2020 (OECD 2022). Significant cases of work time reduction in recent decades include the 35-h workweek adopted in France in 2000, and a law passed the same year by the Dutch Government that gives employees the right to reduce their hours. This made the Netherlands the first country in the world where the overall average working week dropped below 30 h, although with a higher share of women adopting part time jobs (Frey, 2019).

Otherwise, work time reductions stagnated in most industrialized countries in the 1980s or 1990s. In countries like Australia, Austria, Spain, England, and Norway the workweek has stopped shrinking altogether (Messenger et al., 2007), and in some countries like Sweden and the United States, working hours have been reported to increase (Evans et al., 2001; Schor, 2008, but see Coleman and Pencavel, 1993 for a contending account). According to Ehmer and Lis (2009), the average actual working time has become longer for great many wage workers since the 1990s (coinciding with the fall of the Soviet Union) than in any other period in recent history. Data from organized labour indicates that after the 2008 financial crises, many public service workers in Europe, particularly in countries like Spain, Ireland, and Portugal, faced imposed increases in working time without compensation (De Spiegelaere and Piasna, 2017).

By 2020, official annual hours per worker in OECD countries ranged between 1332 (Germany) and 2172 (Colombia), averaging 1687 (OECD, 2022). In most OECD countries, total annual leaves (including holidays and other statutory leaves) currently range between 30 and 35 days, the United States being the only country without a statutory minimum annual leave entitlement.[6] In the European Union, if weekends and a month of vacations (averaging 22 working days) are accounted, there is an average of 126 holidays, plus the specific holidays for each country.

Holidays and workweeks marked by official regulations must otherwise be collated with the number of real working hours per person per year, as research suggests that major gaps often exist between the two (Messenger et al., 2007). In many countries, non-paid overtime escapes official statistics. In some sectors, laptops, smartphones, and other communication technologies have allowed work to encroach upon leisure time (Wajcman, 2015), de facto extending working hours in many economic sectors (Ja-young, 2016). Digitalization has also brought a new tide of 'shadow work' (Illich, 1981), shifting upon us unpaid tasks (check-out in supermarkets, assemblage of furniture, online bookings) that were previously paid for (Lambert, 2015).

It should also be noted that even in countries that experienced a reduction in the individual work week, average paid working time within the family unit has increased dramatically with the incorporation of women to the labour market. According to Bregman (2017), whereas couples in developed economies worked a combined total of 5–6 days a week in the 1950s, this figure is now closer to seven or eight. Furthermore, against the common belief, time use studies suggest that the introduction of electricity, running water, and 'labour-saving' appliances in the 20th Century have not resulted in any major declines in housework time. Time saving enabled by technology has been offset by a rise in expected standards of cleanliness and childcare (Cowan, 1983; Wajcman, 2015), as well as by the development of new and more managerial tasks such as shopping and maintaining family budgets (Strasser, 2000). Based on 20 comparable time use studies, Vanek (1974) concluded that a United States housewife in 1924 spent 52 h a week in housework while half a century later, a full-time housewife devoted 55 h.

5. Rethinking work

We should be wary about idealizing work and working time in the past. We have already called attention to the gendered, classed, and raced biases of most historical accounts on work. We must also be aware of the limits we face when trying to compare working time across different times and modes of production, where variations in the intensity of work and in the apprehension of time make working time hardly commensurable. As Ellul (1954/2003: 198) notes: 'While we can compare the 15h workday of the 1830 miner and the 7h workday of the 1950 miner, there is no common denominator between these and the 15h workday of a mediaeval artisan'.

These reservations notwithstanding, an examination of work and working time against the background of the *long durée* exposes myths and prejudices in dominant conceptions on work, and provides perspective on the pathologies of the work-centred societies, now naturalized in the imaginary of industrial cultures. It also reveals that current work values did not come about as a smooth or natural process; the work ethic and discipline prevalent in today's work-centred societies encountered fierce and long-standing opposition, only bent after centuries of proselytizing, legal coding, and coercion. Prevailing ideas about work are largely the product of technological, economic, and cultural developments under industrial capitalism. As Wajcman (2015) notes, 'there is nothing natural or inevitable in the way we work'.

Environmental destruction, rising inequalities, accelerated automation, and dissatisfaction with work centred lives are symptoms that invite to rethink the meaning, purpose, volume, content, and distribution of work. In what follows, I sketch principles and ideas around which the future of work could be reorganized, based on ecological economic principles and egalitarian premises.

5.1. Nature, meaning, and purpose of work

Two main visons of the future of work have been salient in utopian thinking: liberation *through* work and liberation *from* work. Rooted in the work of authors like Fourier (1901), Marx (1844), and Morris (1890/2002), liberation *through* work sets the focus on transforming work into meaningful, creative, and pleasurable activities by e.g., reducing the division of labour, diversifying tasks, and organizing work collectively

[6] https://www.oecd.org/els/soc/PF2_3_Additional_leave_entitlements_of_working_parents.pdf

through associated producers (e.g., Foster, 2017).

The idea of liberation *from* work goes back to Aristotle ([4th-century BC] 2004),[7] is present in folk utopian traditions dating back to the 12th century (Mair et al., 2020), and extends to our time through the work of Lafargue (1883/2020), Bellamy (1888/2013), Russell (1935), Arendt (1958/1998), Gorz (1988), and Frayne (2015), among others. This vision displaces work from the centre of emancipatory projects to set the focus on expanding leisure time for creativity, self-production, and engagement with community and public life, e.g., through automation and/or decreased consumption. In its maximalist strand, it envisions the 'end of work' through the near-full automation of all hard, menial, and unpleasant tasks (Rifkin, 1995; Srnicek and Williams, 2016; Bastani, 2019).

These competing visions provide inspiration for a post-growth notion of work (Mair et al., 2020). Recognition of environmental and technological limits, however, reveals limits to these visions. First, against the 'end of work' thesis, a near-total liberation from work through automation is hardly ecologically possible (for its material and energy requirements) or humanly desirable (the inaptness of robots for emotional work being an obvious example from a convivial viewpoint). Second, against the assumption of the 'creative work' thesis, not all work can realistically be transformed into attractive and pleasurable activities. In all likelihood, a significant portion of work will remain tedious, alienating, or unpleasant, yet fundamental for societal reproduction.

An ecological economics understanding of work shall extend to all activities required for the provisioning of basic needs, both material and emotional. Whether these activities are domestic or market-oriented, productive or reproductive shall not be, at the outset, defining criteria for their social status and level of remuneration. The nature of work appears through this lens as intrinsic to the human condition; its purpose, as securing societal reproduction. Given environmental limits and the inevitable nature of work, sufficiency and fair distribution become central organizing principles. Harmonizing distributive time justice and necessary work involves that every able person should contribute a fair share to the necessities of social reproduction. Harmonizing this understanding of *necessary* work with time justice is thus in tension with the idea of an unconditional basic income, which elevates individual rights and freedoms above fair distribution and collective responsibilities.

There is no good reason, I claim, to understand work as the ultimate vehicle to emancipation. This idea, hereditary of industrial capitalism, reproduces the cult of work and the dogmas of work-centred civilizations. Once necessary work is covered, individuals having contributed their fair share shall decide freely whether they search for meaning, purpose, and self-realization through work, leisure, or both. A core principle for reorganizing work along these lines is thus the *egalitarian distribution of minimal necessary work* (Gómez-Baggethun, *in press*).

Various fundamental questions arise: What changes in the distribution and remuneration of work are required to achieve higher levels of social justice? Under a given technological regime, which volume of work is required to cover basic needs within just and safe environmental limits? Which technologies (and at which scale) are compatible with ecology and convivial lifestyles? Which are the associated limits to automation? Which jobs are essential, which are desirable, and which ones should be discouraged or abolished?

5.2. Redefining norms for rewarding work

At least four aspects deserve attention to rethink the normative and institutional architecture of present work remuneration: i) the boundaries defining which work is worthy of remuneration, ii) the lack of coherence between levels of reward and the socioenvironmental value of work, iii) asymmetries between work hardship and remuneration, and iv) extreme income inequality.

First, we have seen that the idea of work as 'productive' (economic value-adding) labour still assumed in many economic and policy debates bears little in common with notions that prevailed in pre-industrial times, where blunt separations between paid and unpaid work, domestic and market-oriented activities, and productive and reproductive labour were largely absent (Komlosy, 2018). This framing underpins arbitrary boundaries defining which activities are worthy of remuneration, devaluing housework, care work, and other non-paid labour (Waring, 1988). Redefining these boundaries is a core demand of feminist struggles for household wages (Federici, 2020) and of basic income proponents (Gorz, 1988; Downes and Lansley, 2018).

Second, there is a widening gap between reward and the social and environmental value of work. A case that gained attention in the aftermath of the Great Recession are the salaries and commissions of the investment bankers that brough the global financial system to the brink of collapse. A prominent case of underpayment that has gained attention with the COVID-19 pandemic, are the health and social care work sectors (Müller, 2019). Novel valuation methodologies have formally revealed these gaps by assessing the social, environmental, and economic value that different jobs produce or undermine. For example, using principles and valuation techniques of Social Return on Investment, Lawlor et al. (2009) found that low-paid jobs like child-caring, waste recycling, and hospital cleaning created high social value per dollar invested, whereas high paid jobs in the banking and advertising sector produced large social and environmental costs.

Third, major asymmetries prevail between work hardship and reward. The way these play out under present power relations and valuation systems has been formalized by Naredo (2010) in the so-called 'Notary's rule', a metaphor illustrating the asymmetries between economic value and physical costs (in terms of labour and natural resources), exemplified in the process of building a house: the most physically demanding and environmentally costly stages, such as mining the materials, get the lowest value for labour and commodities, followed by construction, installation of running water and electricity, all the way to the notary's signature, involving the lowest effort but rewarded with the highest payment. Addressing this asymmetry and associated injustices involves changes in the institutions and valuation mechanisms that govern prevailing systems of reward, as much as countering the economic ideology at the basis of their moral validation (a succinct exposition of which is provided in e.g., Jelvis (2018)).

Finally, inequality in high income countries has reached levels without precedence since the early 20th Century (Piketty, 2013), as welfares states have replaced progressive by regressive taxation systems, where the wealthy pay proportionately less tax than the midle class and the poor. Reversing this tendency requires progressive taxation on income and capital, but also regulatory limits on inequality, such as caps on wealth, a minimum income, a maximum income (Pizzigati, 2018), and the establishment of maximum-minimum income ratios (Alexander, 2014). Maximum-minimum income ratios have boomed since the mid-20th Century, when the CEO to lay worker pay was closer to 20. The civil service, the military, and the university still manage a range of inequality within that range, but corporate United States has a now range of 500, sometimes above 1000. Caping ratios at a factor of, say, 50 or 20 could be a good place to start. As a goal, however, Rosseau's ideal according to which "no citizen shall ever be wealthy enough to buy another, and none poor enough to be forced to sell himself" offers a more robust egalitarian guiding principle.

5.3. Sharing and redistributing work

Worktime reductions, I claim, should follow principles of sustainability, solidarity, and time justice. A marked trend in developed

[7] "If every tool [...] could do the work that befits it [...], if the weavers' shuttles were to weave of themselves, then there would be no need either of apprentices for the master workers, or of slaves for the lords" (Aristotle, Politics, I.41253 b33-1254a1).

countries over recent decades is the (classed, raced, and gendered) polarisation between those who are overworked and those who are involuntarily unemployed and underemployed (Wilson and Jones, 2018). The logical principle to counter this trend is work sharing (Messenger and Ghosheh, 2013; Schor, 2015). In addition, worktime reductions in the waged sector should be designed with attention to prevailing inequalities in the distribution of unpaid household and other reproductive work (Wajcman, 2015), which could be possibly evened through a caring income.

While a gender convergence is observed in the division of household work in high-income countries, the gap in total (paid and unpaid) work persists. Claims on its size vary across sources. Feminist literatures often situate it at about one fourth to one third time use differences (Wajcman, 2015), whereas some sources claim the gap to be lower, especially in rich, non-Catholic countries (Burda et al., 2013) and among educated middle-class couples (Sayer et al., 2009).

A key question concerns whether worktime reductions should be collective and statutory, as decreed in France in 2000, vs. based on individual voluntary arrangements, as in the reform decreed by The Netherlands the same year. Discussing this dilemma, Husson and Treillet (2015) make a case for collective reductions. Drawing on findings form sociological and economic research (Conseil Économique et Sociale, 2008), they state that voluntary schemes are rarely an option for low-income workers and argue that part-time work reinforces unequal division of domestic labour and the societal view of women's wages as supplementary income.

Luce (2015) argues that flexibility is a double edge sword. One the one hand, a degree of choice over the schedules set and the hours worked has obvious advantages for employees that want or need an adjustable workweek to either care for children and elders, deal with disability, work from home, or simply work less. On the other hand, she observes, policymakers and employers have promoted flexibility as 'a win-win plank of neoliberal labour market reform', in practice mobilizing it to break unions, deregulate labour markets, and create precarious part-time jobs.

Pullinger (2014) suggests that voluntary arrangements may represent an additional layer of worktime reduction policy on top of collective policies such as regulations of working hours or parental leave. Based on flexibility arrangements to reduce working hours in The Netherlands and Belgium, he suggests that a 'life cycle approach' for worktime reduction can tap into unmet demand for voluntary, flexible worktime reductions.

5.4. Reducing work volume

Historical research suggests that working time in pre-industrial times was often shorter than generally assumed. The scope for worktime reduction through present work-saving technologies seems apparent from the modest decline of working hours in recent decades compared to the pace of work productivity. The rich world is 4–5 times better off on average than we were in 1930 yet working hours have fallen only by about a fifth (Skidelsky and Skidelsky, 2012).

There is scope for worktime reduction through shifting the productivity dividend of technology developments from increased consumption to increased leisure (Knight et al., 2013; Pullinger, 2014; Schor, 2015). Criteria to inform the feasible scale of worktime reduction shall include societal shortfalls and ecological overshoots (per-capita consumption levels compatible with just and safe planetary boundaries) (Fanning et al., 2022), energy availability (Sorman and Giampietro, 2013), unemployment levels (Ford, 2015), and the social (dis)utility of jobs (Morris 1885/2016; Graeber, 2018).

According to Pryce-Jones' (2011) estimation, an average person spends 90.000 h working over a lifetime. Concrete utopias have envisioned this volume being reduced by half or even three quarters. Bellamy's (1888/2013) utopian fiction (which imagined an egalitarian society in the year 2000), envisioned 24 years of compulsory work (3 years working as a common labourer, the rest in a skilled occupation), but provided limited detail on how housework would be covered (Levitas, 1995). Using detailed accounts to calculate the volume of work required to guarantee basic needs while reducing consumption of exhaustible resources, ecological economist Popper-Lynkeus (1912) calculated that necessary work could be covered by means of a 7–10 years long civil service with a thirty-five-hour week (see Martínez-Alier, 1992).

Gorz (1988) proposed that work could be possibly reduced to 1000–1500 h per year over 20-year period, resulting in 20.000–30.000 h over the life course. If his calculations are correct, the 6 h workday or 4-day workweek would be a first obvious step, whereas more radical propositions like the 21 h week (Simms et al., 2010), the 15-h workweek (Keynes, 1930/2010; Bregman, 2017; Stronge et al., 2019) or the 2–3 h workday (Lafargue 1883/2020; Ellul, 1954) could be in the horizon. Ecological economists are to investigate whether these work volumes are compatible with just and safe planetary boundaries under assumed technological regimes.

There is, to conclude, an important lesson we have learned from history, namely, that technological progress will not liberate us from work on its own. Left to the dictates of markets, and with the capital-labour power balance remaining unchecked, productivity dividends will keep serving economic expansion and shareholder profits over increases in salary or leisure. The golden age of worktime reductions —broadly extending from 1830s to the mid-20th Century— was a period of sustained social struggle, which repertoire of action included strikes, organized disobedience, property destruction, and collective bargaining. Major work time reductions are unlikely to come about without stronger democratic control over the economy, technology, and the workplace.

Declaration of competing interest

I declare that I do not have known competing financial interests or personal relationships that could have appeared to influence the work reported in the paper.

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