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Reflections on the political economy of planetary health

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ABSTRACT

This article seeks to contribute to debates on the political economy of global health by offering a 'planetary' perspective. We initially sketch contestations concerning improvements, inequalities and inequities in the state of global health in order to move towards a more integrated conception of significant social forces driving transformations in health, society and ecology. We then explore key agencies (e.g. large energy and pharmaceutical corporations; sympathetic governments) and structures of contemporary capitalism to interrogate their impacts on health care and ecology, for example in driving global pollution and climate change. We propose that such forces play a significant role in an unprecedented planetary organic crisis. Finally, we suggest that the world has reached an historical crossroads, necessitating a significant change of direction to promote a more ethically and ecologically sustainable, socially just future and argue for new paradigms of health that are 'planetary' in scope and perspective.

KEYWORDS Inequality; ecology; power of capital; market civilization; anthropocene; capitalocene; structure; agency; planetary health; ethics

1. Introduction

Our central thesis is that the good health of populations is rooted in the socio-economic and political conditions and institutions that provide support, protection and nurturing for people to flourish from birth into old age. Such foundations for health are nutritious food, clean water, decent shelter, healthy and sanitary living conditions, equitable and universally safe working conditions, basic education, supportive mechanisms of development and social reproduction, and effective essential health care.

Our perspective assumes that the vast forces of contemporary capitalism fully imbricate the health of populations and the planetary ecosphere upon which all life-forms are ultimately dependent. We further suggest that an unprecedented global organic crisis mandates a fundamental change in our approaches, institutions and policies to help move towards an ethically and materially sustainable praxis of 'planetary health'.

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In so doing we fully acknowledge that neither the wealthy, the fortunate, nor all humankind can be *collectively* blamed for the health and other inequalities and shortcomings that polarize the world and pose growing threats to the integrity of the eco-structure. Such aberrations require analysis of the inter-relationships between ethical values and prevailing development and political structures, historical patterns and agencies that have generated the current global predicament. We therefore offer critical reflections on health paradigms and priorities and prevailing mentalities that deny social justice, rights and freedoms that we consider necessary to sustain flourishing lives and life systems. In doing so, we make a critical intervention into neoliberal assumptions found in some of the global health literature.

To pursue these aims, we discuss in Section 2 some of the prevailing perspectives on global health inequalities and offer an alternative conceptualization that frames some of the contemporary 'morbid symptoms' of our global situation on a biospheric scale, in order to help introduce wider discussion of relations between contemporary capitalism and health.

Section 3 introduces our concept of market civilization, central to understanding the cultural, social and economic driving forces of contemporary capitalism and its planetary scope. We consider its implications in light of exploration of the key role of over-expanded private property rights and especially intellectual property rights in capitalist-governed health practices.

Section 4 suggests that the power of capital in market civilization rests upon hierarchical and contradictory social and ethical systems with deep, accelerating impacts on the planet and its people, as capital transforms life-worlds according to a commodity logic reaching into micro-practices of everyday existence. A brief discussion of neoliberal ideology, investment and identity-formation and aspects of public policy is sketched to highlight contrasts between neoliberalism and the socialized frameworks of the post-1945 'Health for All' approach. It addresses some impacts of neoliberal governance and financial austerity on health care workers and the human right to health care.

In Section 5, we raise a central health issue that concerns the health of virtually the entire world population and the condition of the planet: pollution. We highlight how significant agencies of capital (e.g. large corporations in fossil-fuel and non-renewable energy) are of major significance in driving pollution and climate change.

In our concluding section, we briefly sketch ways to think about how to chart a way forward through a paradigm shift towards 'planetary health'.

2. Health inequalities in the world: perspectives and contestations

Key questions in the political economy of health – such as inequalities and hierarchies in conditions, provisions and potentials to live healthy and rewarding lives – are highly contested. Perspectives reflect different epistemologies, ontologies, theories and methods. Conceptualizations of health reflect – either consciously or unconsciously – sets of particular ideologies, although they may claim to represent universal interests. So here we selectively sketch new perspectives to help justify our approach to the capitalist world order and health in the context of the finite nature of our ecosphere.

It is clear that rapidly advancing and highly commercialized modern medical care, combined with public health initiatives, have produced dramatic improvements in health and health care, allowing about 20–30% of the world's people to achieve more of their human potential. However, there is simultaneously a widening of local and global disparities in access to conditions essential for better health and longevity: 70–80% of the world live under far less than even minimally adequate social and material conditions for health (Benatar, 2015; Kochhar, 2015). Relative poverty has also numerous adverse health impacts (Wilkinson & Pickett, 2011).

Nonetheless, from the perspective of wealthy countries, some leading thinkers argue there is much to celebrate. In his Harveian Oration, Christopher Whitty describes many successes of sophisticated modern medicine and how global mortality rates per 1000 live births between 1990 and 2015 have fallen in under 5-year-olds from 90 to 43, in infants from 63 to 32 and in neonates (newborns) from 36 to 19 (Whitty, 2017). While global maternal mortality per 100,000 live births fell from 385 in 1990 to 216 in 2010 it ranged from 7 deaths per 100,000 pregnancies in Canada, to 134 in South Africa, 789 in Southern Sudan and 1360 in Sierra Leone (World Bank, 2016a). In Somalia the average fertility rate was 6.6 children per woman and one out of every 12 women died due to pregnancy-related causes (UNICEF, 2012). Canada's death rate for children under 5 years was 5 per 1000 live births with significant health disparities between the indigenous and settler communities (National Collaborating Centre on Aboriginal Health 2013), whereas in Somalia it was 137 per 1000 live births (World Bank, 2016a). Other examples cited from this perspective include the increase in life expectancy at birth for all (WHO 2015b; World Bank, 2015) ranging worldwide from a low of around 49 years to over 80 years (WHO, 2015a).

Thus while addressing global questions, this perspective uses an ontology and a method that categorizes and evaluates widening disparities and health inequalities within and particularly between countries. However such nationally based global statistics often fail to reveal the 'devil in the detail' needed to account for the situation and related inequalities of a majority of the world population.[1] Even within enormous inter-state disparities there are worsening *internal* inequalities. Indeed, within the wealthy USA, life expectancy has fallen for the second consecutive year (Woolf et al., 2018). Generally the poorest people are most likely to have relatively minimal or inadequate maternal care. For example, South Africa offers examples of ethnic/economic disparities (Kon & Lackan, 2008) evident in other low- and middle-income countries.

A second perspective, involves a similar ontology of nationally defined inequalities concerning income levels and health. Disparities in health (WHO, 2014) are associated with wide variations in income described by the conservative *Pew Research Center* (Kochhar, 2015) and by UNICEF (Alemán-Díaz, 2016). The latter suggests structures of health inequality (and infant mortality in particular) are also greatly configured by inequalities of race, gender and class within nations.

Such findings link to a third perspective concerning evidence of inequalities underpinned by comparisons of the burdens of disease and their distribution by disease causes (as shown graphically by Labonte & Schrecker, 2011). Here, more critical writers emphasize that the social conditions conducive to better health and access to care are, in practice, only available to a minority with effective political

representation, resources and literacy to utilize them, leading to wide intra-country differences. Such differences in tuberculosis reflect disparities in wealth and in the conditions conducive to good health (e.g. in Canada the incidence of tuberculosis in the general population is 4.4 cases per 100,000 people but in Nunavut territory it is 261.6 cases per 100,000 people, (Oudshoorn, 2018). A further large majority are often either 'excluded' from more favorable social and economic structures or remain consigned to precarious conditions, poverty and marginalization (Sassen, 2014; Standing, 2011).

Indeed, by 2015, at the very bottom of the world's social and economic hierarchies, one billion people (the *extremely poor*, or around one in seven of the world's people) lived on less than US$2 per day (World Bank, 2016b),[2] in what has been defined as 'a condition characterized by severe deprivation of basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information' (UN, 1995, p. 1). It is also important in this regard to reflect on the standard of living and health for the other more than 4 billion people living on $2–10 per day (Benatar, 2015; Kochhar, 2015) and ask what this means in terms of opportunities to be healthy.

We believe that we need to go beyond these perspectives and develop one associated with the health of the world population and how this is linked to global capitalism, world order and the biosphere. Such a planetary framing does not neglect disparities within and across countries and localities and it would incorporate inequalities of class, race and gender.

It would therefore take account of research such as that published in the *Journal of the American Medical Association* on income and life expectancy in the USA 2001–2014. The richest 1% of American men live 14.6 years longer than the poorest 1%, reflecting stark differences in life chances between affluent and impoverished populations (Chetty et al., 2016). African-American populations are consistently found to have disproportionately higher rates of hypertension (high blood pressure), death by heart disease, and lower average life expectancy than other racial and ethnic groups (Centers for Disease Control & Prevention [CDC], 2017). Other research has charted growing health inequalities by geographic region in the US. Health outcomes vary widely by locality, region and across rural and urban settings, each with differential access to social services, and varying rates of unemployment, poverty and affluence. Inequalities are magnified in other historically racialized and marginalized communities, e.g. indigenous peoples throughout the Americas. There are also contrasts between contiguous neighborhoods. The incidence of chronic diseases such as diabetes is far more pronounced in Harlem, the traditional home of African-Americans in New York City (13%) than in Manhattan as a whole (7%) (King, 2015).

We therefore need to unravel some of the key social forces that help to explain these outcomes, i.e. how gender and racialization informs class structures and health outcomes.

Our approach would also incorporate a comparative perspective. For example, a comparison between health and health care services in South Africa and Canada illustrates many differences between these countries, as well as common deficiencies. Inequities are evident in both countries, despite far greater resources for health care in Canada. Both countries suffer from lack of explicit resource allocation policies, insufficient use of nurse practitioners and community health workers,

and inadequate consideration of economic and political power structures that influence health and health care services (Benatar, Sullivan, & Brown, 2018).

Thus, we need to explain why and how extremes of wealth and poverty exist within both poorer and richer countries and why they are associated with highly unequal health outcomes, health care and life expectancy for people, unless socialized provisions compensate for these effects.[3]

Finally, our approach integrates the role of capitalism in the reconfiguration of the health of people and the planet. Here one crucial area for investigation concerns the power of large corporations. Giant firms dominate the highly profitable pharmaceutical and health care sectors, and with it influence over health governance across the world (Financial Times 2015; Forbes, 2018; PWC 2018). This is also true of world food markets: adequate food and nutrition are of course vital for healthy lives. Recent scholarship has charted a close correlation between the increasing profits of the world's largest food conglomerates and a simultaneous rise in global hunger levels since 2000: poorer 'consumers' are priced out of food markets (on hunger and related stunting of children, see Kharas & Noe, 2018).

Given the global nature of these large firms and their links to the regulation of world economic activity, this would also mean that we need to account for trade and investment rules and control over global markets (including weapons systems) and their impacts on planetary health, and the degree to which they benefit corporations and wealthier countries. Another example concerns the unequal effects of migration on health care systems: there is a long-term 'brain drain' of health care practitioners from poor to wealthy locations, often through recruiting endeavors by affluent counties. The latter usually involve little or no attempt to provide any recompense to poor countries for their lost educational and economic opportunity costs (Benatar, 2007).

3. Market civilization, political economy and property rights

So, how are the inequalities and the morbid symptoms noted above driven by the structure and new forces of dominant capitalism? Our thesis is that many of its dynamics and outcomes are connected to the practices of a prevailing neoliberal *market civilization* capitalist development model. This model involves accelerated, energy-intensive production, consumption and distribution systems that are serving to intensify an unprecedented planetary organic crisis (Di Muzio, 2012; Gill, 1995, 2008; Mitchell, 2011; Newell & Paterson, 2010; Patel & Moore, 2017; Urry, 2013). This crisis involves interacting and deepening structural crises of economy/development, society, ecology, politics, culture and ethics – in ways that are unsustainable. Thus the notion of 'sustainable development' central to contemporary capitalist discourse can be viewed as an oxymoron in the face of non-renewable and finite global resources.

3.1. Market civilization

The conception of market civilization suggests that capitalism has entered a new phase requiring a more wide-ranging and integrated ontology that encompasses how the hold of capital over life-worlds, societies and its influence over the biosphere, is deepening. In this view, capitalism is seen as a hierarchical system of

power dominated by large corporations. The term 'civilization' is used because it invokes not only an economic system but also the transformation of cultural practices and systems of social reproduction, increasingly on a planetary scale, in ways that are relatively unprecedented. This process does not simply involve market-based accumulation and narrowly defined capitalist systems of exchange. Nor does it simply rest upon exploitation premised upon the exchange of commodities (such as labor and land) or of services.

Indeed, capitalism in its contemporary market civilization form encompasses the reshaping of general *social reproduction*, of nature and the biosphere. Social reproduction involves (a) the social processes, relations and institutions that are 'associated with the creation and maintenance of communities and therefore, upon which all production and exchange ultimately rest' (Bakker & Gill, 2003, p. 19). More broadly this involves (b) '… ways in which any society produces, consumes and reproduces its life and lifestyles, how it conceptualizes and understands its actions and how it defends and/or justifies its particular pattern of historical development' (Di Muzio, 2012, p. 76).

One of the most notable aspects of the contemporary world is how capital has increasingly sought to engage in private appropriation over social reproduction and previously non-commodified or inalienable elements of life-worlds. Capital has expanded its opportunities for profit to encompass almost anything we might care to imagine, both terrestrial and extra-terrestrial – providing these offer opportunities for profit. This involves the commodification of public education and social provisioning and more broadly our everyday social practices, identities (e.g. *Facebook*, discussed below), communities and common spaces. Its investments and influence involve matters of life and death, such as commercialization of the funeral business, medical research and education, pharmaceuticals and health care provisioning, as well as aspects of nature and the biosphere of our planet such as clean water and air. Indeed capitalist firms are now investing in the exploration and colonization of *other* planets provided they could be owned by means of private property rights.

This process also encompasses the shaping of aspects of the *future* in areas as diverse as: life insurance; freshwater; the atmosphere and weather; international security; financial products (involving insurance and risk; credit-risk, debt and mortgage derivatives for personal loans, housing, shelter and real estate); agricultural futures (food and crop futures and biofuels such as ethanol). The commodification of nature reflects enclosure and patenting of plants, life-forms and indigenous knowledge, much of it by giant pharmaceutical corporations, as well as the development of global weather insurance markets and weather derivatives to manage financial risks posed in an era of climate change. 'Emissions trading and carbon sequestration schemes also commodify the atmosphere and have proliferated since the adoption of the Kyoto protocol'. This process involves construction of a 'neoliberal nature' (Cutler, 2014, pp. 54–55).

Nonetheless, market civilization is contradictory: while it is premised upon individualism and self-actualization through consumerism, its dynamics are driving a socially unsustainable, ecologically myopic, anthropocentric system. This growth model is consistently riven by economic crises of increasing severity, is socially exclusive and rests upon the subordinated labor of around 3 billion workers worldwide operating in often unhealthy working conditions, especially in China and

South Asia (ILO, 2018; Mezzadri & Lulu, 2018; Selwyn, 2014). This system allows a privileged minority to continue to consume excessively and deplete a growing proportion of global resources and services, supplied increasingly by long-distance production and distribution networks, huge container ports and ships and tanker networks.

3.2. Private property rights and neoliberal constitutionalism

The political conditions for the power of capital ultimately rest upon the legal and constitutional protection of and guarantees for private property rights – rights allowing for oil, food, plants and seeds, medicines, bodily organs, blood supplies (and even cadavers) as well as the knowledge and DNA of indigenous peoples, along with sundry other elements of life – to be legally treated *as if* they are commodities that can be owned, bought and sold (Breske, 2018; Harry, 2011; Shiva, 1997; Whitt, 1998). Under conditions of corporate concentration, this ownership also confers control and authority over large elements of the productive apparatus and systems of exchange, and significantly influences the general trajectory of health care.

To further understand how these transformations are occurring we might consider how constitutions operate in neo-liberal political economy. Here, it is crucial to underline that laws governing private property and contracts are fundamentally *productive* and *constitutive* aspects of capitalist societies (Gill, 2002, p. 59). Von Hayek considers such laws to be constitutive of capitalism and are a fundamental 'instrument of production' (Hayek, [1944] (1994), p. 73). Quintessentially neoliberal legal forms serve to constitute the commodification of labor, of things, systems of production, social and cutural institutions, and widening aspects of everyday life.

Capitalist private property or ownership rights are sets of rights connected to control over commodities and over the behavior of people relative to things. Commodities can thus be bought, sold, transmitted or destroyed, subject to legal limitations (Oakes, 1980). For example, since owners typically retain rights to exclude others from access or use of property, it follows that laws of trespass may supervene over claims to the right to land. However, UN signatories have expressly prohibited the pure commodification of other human beings (slavery).

Even taking account of any limitations, private property rights (and contracts) means that political and social power is decentralized in a neoliberal capitalist society. Rights to property and its accumulation are guaranteed under liberal (and capitalist) constitutions. This gives large private property owners a great deal of autonomy relative to the government and the rest of society since they are free to make decisions concerning what to do (or not do) with their property (and investments). Since private corporations have legal personality and ownership, their property rights also confer corporate authority over workers, provided that workers have entered into an employment contract. This allows owners to give orders, make rules and effectively to make private laws to govern the workplace. The employment relation is guaranteed by the state since it derives from the overriding constitutional principles that underpin the autonomy of private property rights (Gill, 2002, p. 60).

This constitutional arrangement allows concentrations of ownership to be influential in the shaping of public policy and civil society, e.g. corporate

ownership of the media and its ability to influence political and cultural preferences. Thus under capitalist constitutionalism there is no real (as opposed to formal or methodological) separation between capital, law and the state or state and civil society. Indeed, in a liberal formation, they are mutually constitutive. Politics and economics are not separate. Thus, neoliberal constitutionalism, or *new constitutionalism* forms the juridical dimension of the contemporary power of capital (Gill & Cutler, 2014).

Of particular significance in the field of health (also in many other areas of activity such as computing and social media) are *intellectual property rights*. This involves ownership via patents over knowledge, techniques, treatments, therapies, plant hybrids, and other forms of copyright protection (May & Sell, 2005; Pila, 2014; Van Dooren, 2008). Such ownership is private and normally cannot be expropriated by governments except in cases of extreme medical emergency. Ownership of such rights confers private corporations with the legal mandate to either supply or to deny access to medicines and other treatments on the basis of the ability to pay. The same rights apply to the supply and sale of food by agricultural and food corporations: if you have no income you cannot buy food or seeds in a capitalist market. Therefore, capital and its owners, indirectly through the structure of markets, have the power to mediate between life and death (Patel, 2007).

Such a proposition can also be rephrased by invoking Foucault's (2008) concepts of biopolitics and biopower: the combination of elements of political economy, surveillance and governmentality to govern populations. Governmentalities of health were previously primarily defined by many governments after 1945. They are now increasingly subjected to market forces and the commodity form. This means that health is now increasingly financialized and tradeable as a commodity – both with respect to private health enterprises, their intellectual property rights over scientific innovations, as well as over their brands and marketing systems: their shares can be bought and sold on stock markets or in private transactions. Health becomes commodified through its abstraction into a saleable good and marketized resource, and increasingly divorced from much of the basic human need for health and care (Kay & Williams, 2009).

Indeed we might hypothesize that we are currently witnessing a significant moment in history whereby there is an acceleration in how profitable aspects of human health have become increasingly monitored, controlled, monetized and capitalized, and consequently made available for investment in the world's stock markets.

This trend invokes a shift away from state-based forms of governmentality as practiced in many countries after the Second World War. Then public health initiatives such as Health For All took root in both North and South. This perspective embraced a consensus over basic health in socialist, post-colonial and the planned forms of capitalism and was reflected in many programmes of post-war reconstruction in the OECD (discussed below). In the contemporary neoliberal era, the prevailing governmentality involves new hybrids that are governmental-corporate-market-based, especially in the OECD.

4. The power of capital in shaping health: ideology, investment, identity and public policy

So, how in other respects is the power of capital and its prevailing ideology of political economy, neoliberalism, important for our understanding of the forces shaping planetary health now and in the future? Here we suggest four elements: ideology, its view of health as an investment, its role in shaping identities (and indirectly the cognitive and nutritional health of populations), and finally its effects on public policy and on health care workers. We contrast neoliberalism with the praxis associated with the post-World War II 'Health for All' movements and evaluate these developments in terms of the human right to health.

4.1. Ideology, investment and identity

The dominant *ideology* of contemporary capitalism is *neoliberalism*. It emphasizes possessive individualism, acquisitiveness, market efficiency, and full legal and political guarantees for untrammelled private property rights so that owners (corporations) have authority and the right to exploit both workers and nature, as well as health care systems, assuming this is profitable. This ideology is partly justified by the neoliberal argument that corporations are more efficient than governments and that taxes have to be lowered and barriers to capital mobility removed in order to promote 'competitiveness'. Indeed, where health care is largely privatized and commodified as in the USA, private capital is likely to have very substantial influence, less so under more socialized provision as in the Nordic countries.

To further appreciate how this latter link operates under neoliberal capitalism we might need to think of health care not simply as a set of services or drugs provided to patients but also as a potentially lucrative *investment*.

Intellectual property rights protect many of Big Pharma's innovations. They hold ownership monopolies over the production and sale of their commodities (e.g. drugs). These monopolies are protected legally, and typically constitutionally, including by international agreements that have the status of constitutional law for their signatories. Coupled to the market power of large firms, this made the sector the second most profitable and fastest growing sector in the world after banking in 2015 'with an increase in market value of 16.66% compared to the 2014 survey' (Financial Times 2015; the *Financial Times* survey ranks firms by size of market value by sector on the world's stock markets).

Indeed, giant pharma corporations have been successful in exercising significant control over a key element of social reproduction: health. Patents and other monopolistic strategies have allowed substantial annual price increases for its proprietary drugs, restricting access, including for life-saving medicines, to those who are able to pay (Crow, 2018).

Private publishers of medical and health research articles are also gaining control over knowledge dissemination and earn vast profits. They do not pay for the research, publication or peer-reviewing work. Indeed, academics have to pay hefty fees for open electronic access to their *own* work. In 2010, Elsevier's scientific publication arm reported profits of 724 million pounds sterling, on revenues of just over 2 billion pounds – a margin of 36%, a margin higher than that posted by *Google*, *Apple* and *Amazon* that year (Buranyi, 2017). The former editor of the

British Medical Journal described such medical publishing as a 'catastrophe' (Smith, 2018).

Investors therefore buy stock in and make bets on whether the market value of firms like *Johnson & Johnson*, *Novartis*, *Pfizer*, *Merck* (and *Elsevier*) will continue to deliver growing and high levels of profits, market capitalization and value. This depends on innovations to treat diseases, duration of patents for drugs and the related ability to continue to raise prices. It also hinges on governments' policies since some might restrict price gouging or impose higher taxes on a firms' profits, or even nationalize the firm to provide much cheaper drugs or copy them as generics to lower escalating health care costs.

We have already suggested that private influence over research and education in health tends to skew research and development and delivery systems towards treating the affluent. The affluent can pay higher prices and thus offer far larger markets than the poor. The World Health Organization, based on data from 60 nations, reports that high-income countries have an average of 40 times more health researchers than low-income countries. The number of health research workers per million people ranges from 1140 in Singapore to 0.2 in Zimbabwe. The WHO (2018) adds that only about 1% of funding for health R&D is allocated to diseases such as malaria and tuberculosis, diseases that account for more than one-eighth of the global burden of disease. In this way, science and research and health care practices may tend to assume a commodity-form, in ways attractive to investors, under neoliberal capitalism.

Third, while there is important discussion of how contemporary capitalist consumption patterns involve the unhealthy consumption of (junk) foods and intoxicants, a relatively new development concerns the extension of the market civilization model in influencing *identity-formation* and cognitive development. This involves the proliferation of highly addictive and potentially psychologically destructive online platforms using digital media technologies. Many are associated with the reshaping of social identities by corporate giants such as *Facebook* with its over 2.23 billion active subscribers in 2018 (Facebook 2018), *SnapChat*, *Twitter* and *Instagram*. Heavy online users, particularly children, may also be more likely to consume larger quantities of unhealthy, often addictive junk food. The WHO has therefore called for much stronger regulations on marketing unhealthy foods to children.

The markets for online products, smartphones and fitbits are principally targeted at the so-called expanding global middle classes. Data and the ability to manipulate the users of data become a sought after commodity. When people sign legally-binding online agreements (contracts) in order to join *Facebook*, and through licensing its products, the company gains intellectual property rights over intimate personal aspects of subscribers' identities and their social circles. Portions of subscribers' identities and the ability to influence them become legally owned commodities that can be simply bought and sold to advertisers and other firms and investors for reasons of profit (Skeggs & Yuill, 2016a, Skeggs & Yuill, 2016b). Thus, one of the differences between a friend and a '*Facebook* friend' is that the latter is simultaneously a commodity and a profit source.

In a related development, one of the largest health insurers based in the US, *John Hancock*, recently announced that it would discontinue its sale of traditional insurance and transition to selling 'interactive' digital applications, partnering with

Apple and *Fitbit* to monitor the exercise and health data of its clients, offering discounted rates to those with demonstrable improvements in their health metrics (Dans, 2018). The provisioning of health insurance in the US, in which insurers partner with the world's largest consumer electronics corporations, may increasingly be based on harvesting the data of wealthier and more fit/healthier clients and discontinuing the sale of insurance to less 'profitable' (less fit and/or less affluent) clients.

How capitalist firms' use of digital technologies and platforms are connected to health and well-being is a growing topic, one that calls for significant further investigation. A recent study found heavy users of digital media to be 56% more likely to say they are unhappy and 27% more likely to be depressed.[4] Tristan Harris, Product Philosopher at *Google* until 2016 warns that such technologies negatively affect the attention, well-being and behavior of billions of users. The founding President of *Facebook*, Sean Parker noted that *Facebook* knew from the beginning it was creating an addictive mechanism to exploit 'a vulnerability in human psychology', adding 'God only knows what it is doing to our children's brains'.[5] Pediatricians, child psychiatrists, parents and teachers are urging *Facebook* to scrap its *Messenger Kids App*, which, they argue, could be causing harm to children's mental health and development.[6] *Messenger Kids* appears to use tried and tested methods of capitalist advertising, targeting users as young as six. Others have called for *Facebook* to be regulated, as is the tobacco industry, given its addictive health and psychological effects.

4.2. Public policy, health care workers and human rights to health

Considering the historical shift from the 'Health for All' paradigm of public policy to neoliberalism further reveals contradictions and tensions in contemporary health. Indeed, health care reform over many decades has been largely shaped by a dialectic between policies inspired by ideals of the welfare state based on solidarity within civil societies that respect a broad range of human rights and high professional ideals versus those attuned to the increasingly dominant neoliberal market civilization based on private provision, individualism and freedom of choice, with user-pays models (Benatar, Sanders, & Gill, 2018). However, even in wealthy countries, endless economic growth and escalation of expenditure on health care cannot continue unchecked (Benatar, Gill, & Bakker, 2009).

Recent neoliberal policies contrast with a variety of health models in many countries during the post-1945 period that spawned socialized mechanisms for the provision of health based upon primary care and universal entitlement to caring health services. Supported by right and left and across much of the Cold War divide, the 'Health for All' movement sought to provide health care as a human right, using a Primary Health Care Approach. It was partly associated with systems of post-war reconstruction in major capitalist states, newly created communist states, and postcolonial states. Principles of solidarity, community and primary health care were widely shared and continued to guide national health goals and global health policy over the next 30–40 years, bringing great improvements in basic health of populations.

By the early 1980s, this approach was opposed by conservative and neoliberal political leaders on grounds that it was too ambitious and too costly, and they

pressed for a change towards a more 'selective' approach to health care, with allocation increasingly based upon market principles. Since then it could be argued that very little has been done to address the basic health problems and inequities detailed in this article.

And what about health care workers and providers? Increasing commodification and bureaucratization of health care services world-wide are associated with escalating physician burnout. Physicians now spend twice as much time doing largely unreimbursed out of hours work as they spend treating patients. Much is done at night, on weekends and even on vacation. This includes documenting phone calls, ordering tests, reviewing results, dealing with patient requests, writing prescriptions and working with other staff (Wright & Katz, 2018).

While the majority of health care professionals remain dedicated to their patients, for some others the long-standing ethical commitments to patients are increasingly eclipsed by the quest for fame and fortune. Such concerns about the erosion of professionalism are long-standing and date back to William Osler (1897) and even further back in history (Jonsen, 1992). One indicator is the burgeoning medical TV celebrity culture often providing advice at the expense of an unsuspecting public (Korownyk, 2014).

However, not all doctors, nurses and health care workers are simply willing to abandon their professional ethics of responsibility. Also, national health care systems continue to be varied, with many still premised upon efforts to sustain universal health care. And there remains much to struggle for to achieve fair and universal access to health care, and systems based upon preventative medicine. The same goes for provisioning of decent water, nutrition, shelter and education.

Nonetheless, health care as an ideal is being transformed away from a service delivered by concerned and compassionate professionals dedicated to the high ideals of professionalism on the basis of mutually rewarding, trusting and healing relationships, to an increasingly private marketized system (Benatar & Upshur, 2014). Health is becoming a commodity with patients (consumers) receiving treatment according to whether they are able to pay. Put simply, a fully-fledged capitalist market for health care would mediate questions of (quality of) life and death purely on economic grounds.[7]

It is also arguable that health care services and education, can (and should) be delivered as essential social goods, underpinned by reasonable material resources within reach of all as a *fundamental, inclusive and universal human right* that supplements other moral and legal considerations. Universal rights are not simply negative, narrow political rights but positive rights involving ethical obligations and duties of justice, requiring material provisions. These obligations *require* the state to be proactive. According to the UN Commissioner for Human Rights, health 'is a fundamental part of our human rights and our understanding of life in dignity' (OHCHR, 2008, p. 1). Indeed, one of the largest and most important challenges now facing humanity – and the full realization of human rights – is to improve and promote global health, which has been defined as the health of all people globally within sustainable and healthy living (local and global) conditions (Benatar & Brock, 2011)

It is significant that the American Association for the Advancement of Science has sustained a commitment to a human rights approach to health care reform (see Asher, 2004). Indeed, further links could be forged between the bioethics

movement and the promotion of human rights with groups of concerned professionals, trades unions, social movements, scientists, physicians and lawyers, linkages that are embryonic but are increasingly widely shared (Chapman, 2016). Cuba has continued to maintain a health care system on the principles of prevention and primary care, despite increasing poverty around the country; access to health care is enshrined as a constitutional right. With an average life expectancy nearly identical to the USA, while funding its health care system for a fraction of the cost, Cuba demonstrates one – perhaps a very specific – possibility of prioritizing health care as a fundamental human right (Hamblin, 2016).

5. Capitalism, pollution and planetary health: the need for paradigmatic change

So, what are some of the other principal forms of *capitalist agency* that have configured the global situation and how do they relate to health outcomes and market civilization?

Here we make several interrelated points concerning concentrations of ownership, dynamics of fossil fuel and non-renewable resource production and consumption and their consequences for pollution, climate change and the health of populations.

First it is salutary to note that by 2019 the capitalist world order had reached the unprecedented situation in which a mere 26 men together held more wealth than 3.8 billion people, or half of the world's population (Oxfam, 2019). Most of their wealth was concentrated in the control and ownership of many the world's largest firms in the global top sectors by market value and capitalization – e.g. not only in banking, pharmaceuticals, distribution, computing and software but also in energy and non-renewable resources (with oil, gas, coal, flaring and cement forming the third largest corporate sector by value, Financial Times 2015).

Indeed the largest 90 private and state owned carbon-producing corporations were responsible for direct sources of 63% of all CO_2 (carbon dioxide) and CH_4 (methane) cumulative emissions that generate the anthropogenic greenhouse gases driving climate change and pollution of the planet, developments undermining the health of everyone and the poor the most (Heede, 2014, p. 237). Since 1998, over 70% of the world's greenhouse gases have been emitted by only 100 fossil fuel producing companies, with more than half of global industrial emissions traceable to merely 25 companies during this period (Griffin, 2017). Such forces, linked to a widespread and expanding culture of consumption that propels global demand, pollute the atmosphere, land and oceans.

Second, despite varied capitalist models and other socio-economic systems that have co-existed since 1945, there is now a relative convergence of accelerated dynamics of production, transportation and consumption (including waste and pollution). Such trends form part of what Di Muzio (2012) calls a 'petro-market civilization'. Carbon fuels are the lifeblood of market civilization and provide the energy for production of most industries and transportation, e.g. for food. These accelerating dynamics have generated high and unhealthy levels of pollution.

Pollution affects all inhabitants of the planet and is the principal cause of ill health, reductions in intelligence and premature death. Its consequences are experienced unequally. Indeed, a research team at the Yale School of Public Health

concluded that approximately 7 million premature deaths annually in the world were caused by air pollution. Published in *Proceedings of the US National Academy of Sciences* they indicated that a staggering 95% of the global population breathes unsafe air (with the poorest in the global south the hardest hit) (Zhang, Chen, & Zhang, 2018). Pollution, especially in cities and near highways, is also associated with 'huge' reductions in intelligence that in most cases amount to the equivalent of losing 1 year or more of education, with those over 64 years of age suffering even higher mortality rates and reductions in intelligence (involving several years of educational losses).

A useful shorthand term for the power bloc that supports extended use of fossil fuels is the 'carbon combustion complex' (Oreskes & Conway, 2013, p. 49). This complex, encompassing energy corporations, investors, supportive politicians, administrators and pro-market neoliberal think tanks, exerts tremendous influence over public policy. Its clear interest is to sustain continued fossil fuel extraction and consumption. Such forces are associated with climate science denial and actively oppose attempts to mitigate the damage done by their collective industries to public health and the environment. This complex includes investors, and pension funds of corporations, unions and governments that wish to sustain their pension assets and rates of return. The complex heavily lobbies and seeks representation in governments, e.g. its interests are fully reflected in the composition and policies of the US Trump administration.

It would take a much larger study to fully explore and account for the wide range of forces that sustain these trends. It would need to outline links between this complex to property developers, banks and financial interests that promote patterns of urbanization/suburbanization, and how these undercut investment in energy-efficient and clean public transport. So the noise, waste (including traffic congestion and time spent commuting) and stress on the highways, continues and contributes to global warming and health problems.

This energy-intensive pattern lies at the heart of market civilization. It was extended globally after 1945, initially from the US to Europe, Japan and East Asia and later to the global South and the former communist states. It spread with the support of the IMF and World Bank who were nonetheless 'already aware of the cost in terms of global warming and city dwellers' health' (Pirani, 2018, para. 4).

Meanwhile, in the rich countries, regulators, under pressure from environmentalists, have tried – and mostly failed – to compel manufacturers to make smaller, lighter, more fuel-efficient cars. By the year 2000, more than half the vehicles on US roads were classified as trucks. Atlanta became the US symbol of car-dependent living: its transport-related carbon emissions are 11 times higher per head than those of Barcelona, Spain, which has similar population and GDP per capita, and 100 times higher than those of Ho Chi Minh City, Vietnam (Pirani, 2018).

This situation could be radically altered by new forms of regulation and by better and cleaner investment in public transport, urban infrastructure and energy-efficient buildings.

5.1. Paradigmatic change?

It has therefore become urgent for these unequal, inequitable and unsustainable patterns to be more critically evaluated by means of historically and ethically

grounded, forward thinking about health, governance and political economy. Here our thesis is that interconnected crises of ethics, economy, social development, health and ecology can be understood as forming an unprecedented *planetary organic crisis* whose morbid symptoms pose the proposition that the world has reached an historical crossroads necessitating a significant change of direction.

To indicate some of the thinking that might move us in new directions we briefly introduce further concepts to link the health of people to the condition of the life systems of the biosphere. Thus, *anthropocene* and *capitalocene* form parts of wider debates concerning the biosphere, the role of capitalism and the shaping of the future.

The term *anthropocene* has been used since the 1960s to refer to a new phase in the Earth's history in which humans for the first time become a force able to conduct transformations on the biosphere similar to those effected by 'natural' forces. Earth scientists note the Anthropocene was preceded by the Holocene period where the earth's geology and ecosystems were roughly stable for approximately 12,000 years. Now planetary balance has shifted, with fundamental changes in the Earth's biosphere. Species extinction and a general destabilization of the climate are examples of its morbid symptoms.

By contrast the term *capitalocene* challenges the '*anthropocene* argument' insofar as the anthropocene concept implies that humankind has collectively acted as a single entity in generating biospheric transformation. Jason Moore (2015) argues that the principal agencies of planetary change have been associated with the rise of capitalism since 1450, and with it a watershed in the relation between historical forms of socio-economic organization and nature. Put more theoretically, this is because all human social forms are never generic but are always specific and historically constituted. In this sense, notwithstanding the communist interregnum, the principal forces associated with enormous scope and speed of human-induced biospheric change over the past 500 years (and more acutely since the dropping of atomic bombs at the end of World War II, and accelerating after the eclipse of communism), may be better evoked by Moore's neologism which defines capitalism not simply as a socio-economic system but also as a *method of organising and subordinating nature to the imperatives of capital accumulation*.

Indeed, after the collapse of the Soviet Union and the shifts towards market-based capital accumulation in China we can now argue that capitalist forms of development significantly prevail in the contemporary twenty-first-century world order. Hence, the term the capitalocene seems appropriate to describe the key forces in current transformations.

Such considerations cannot therefore be abstracted away from a further so-called 'great acceleration' in the productive and destructive powers of the world associated with the creation, use and proliferation of weaponry, alongside the massive and unprecedented expansion of production, consumption and distribution in the world economy. Since the end of World War II, the world's population has more than doubled to around 7.5 billion.[8] The global economy may have increased 10-fold or more: as of 2015 global GDP had risen to US$78.28 trillion, with $7.76 trillion spent on health, namely 9.9% of world GDP, mainly in wealthier countries.[9] Part of these expenditures are in response to the adverse health effects of enormous quantities of pollution and (untreated) waste generated by rapid increases in economic activity.

We are now witnessing accelerations in the depletion of non-renewable resources (such as fresh water supplies and fossil fuel sources), deforestation, soil degradation, the mass despoliation of the oceans as well as much of the earth's landmass, the destruction of fundamental primary food sources for the planet (McMichael, 2017; Steffen et al., 2015) as well as the sixth great extinction of biodiversity (Kolbert, 2014). Currently, '[t]hree-quarters of all land on Earth is now significantly affected by human activities' (Carrington, 2018). The World Wildlife Fund *Living Planet Report* (2018) states that humanity has annihilated 60% of animal life (mammals, birds, fish and reptiles) since the 1970s, thus narrowing the genetic basis of the earth's life forms (see also Carrington, 2018). The *Report* states the primary reasons for the loss of the diversity of animal life revolve around: habitat destruction, deforestation, water consumption, air and chemical pollution, caused mainly by resource extraction and consumption, and industrial farming. Industrial livestock farming is increasingly based on selective breeding, genetic manipulation and computerized control over the biological and life systems of animals to maximize and customize livestock outputs to feed affluent meat-based diets (Financial Times 2017). These mechanisms not only increase the turnover time and profits of agricultural capital but also are associated with waste and habitat destruction, particularly rivers and lakes, 'where wildlife populations have fallen 83%, due to the enormous thirst of agriculture and the large number of dams' (Mike Barret, cited by Carrington, 2018). Cumulative, untreated toxic biological and industrial agents contribute additional health hazards. Since nature is central to what helps produce, sustain and grow the biosphere for human and non-human life, the WWF calls for a transition in the global food system that moves away from unsustainable meat-, pesticide-, bioengineered- and fossil-fuel-based food production and consumption (2018, p. 5ff).

All of the above trends contribute to reducing planetary resilience and generate critical tipping points beyond which irreversible entropy will escalate (Barnosky et al., 2012; Kopp, Shwom, Wagner, & Yuan, 2016). Further damage may follow through editing the genome in the quest to reinvent nature.

We propose that at tipping points between sustainability and non-sustainability at the current historical crossroads, there is an imperative for a swerve towards newer ways of thinking about life and living. We therefore argue for a shift towards an eco-centric perspective on life and health, a planetary perspective associated with a moral imagination that acknowledges the need for a profound and socially just restructuring of global power, greater global solidarity and the 'development of sustainability' (Bensimon & Benatar, 2006; Benatar, 2011; Westley et al., 2011).

A planetary approach suggests ways that integrate the social conditions and determinants for health, the lack of geographic or social barriers to the spread of infectious diseases, and more broadly the interconnectedness of *all* forms of life and well-being on a planet threatened by exponential use of limited, non-renewable natural resources, pollution and accelerating climate change. We believe that denial is not an option, despite the energetic attempts of many public relations firms and politicians beholden to large corporations and their attempts to overlook overwhelming scientific evidence concerning the threats to the people and the planet. Our thinking needs to go beyond the ideologies that support the current trajectory of scientific and technological advance, economic growth and market practices as capable of providing *all* the solutions to our current predicament.

6. Conclusions

We have sought to go beyond the framings of health inequalities outlined earlier. In so doing, we have challenged the view that such inequalities can be significantly improved through contemporary approaches rooted in the dominant geopolitical, economic, political, cultural, biomedical and ethical belief systems and prevailing ideologies associated with health, since these have played a major role in generating our global predicament.

We therefore ratify a proposal made half a century ago that the next major shift in paradigms of health should be to frame it in terms of a healthy planet and its people (Potter, 1971). Indeed, many of the principles and policies that would help bring this about are widely known, and indeed have informed historical practice in the past such as the 'Health for All' movement. The requirement for urgent political organization and political pressure to challenge the status quo and to shift the trajectory of transformation remains crucial.

Neoliberalism, as we have discussed it, has not served us well collectively and unfortunately there is no idyllic paradigm to which to revert. However, we suggest that a space for dialogue be opened up to facilitate more sustainable lives with recognition of the equal moral worth and dignity of all. Our systems need to be linked to the preservation of substantive freedom (and not just the freedom to make profits) and to the reduction of inequities to help achieve greater individual and collective potentials, solidarity and collaborative participation – as opposed to individualization and atomization in the face of societal and ecological challenges (Chatwood, 2015; Greenwood, de Leeuw, & Lindsay, 2018; Hassel, 2004).

These principles are not new but have been obscured by the dynamics of anthropocentric, capitalocene and market civilization models, which have sought to redefine the notion of *being* in terms of *acquiring and having more*. Arguably, emphasis should shift to *being better people* and *doing better with less*, within more eco-centric conceptions of ethically sustainable life for all beyond mere first-order survival needs – needs currently barely recognized as goals or research priorities in high-technology medicine and genomics.

Progress towards such an ecological conception might be partly based, for example, on living together for mutual benefit. Knowledge systems and forms of human organization might affirm the interconnectedness of life and all living things. This requires the transformation of political power and political economy as well as public policies grounded in ethical commitments. A transformative perspective needs to go beyond critique and demystification to generate real alternatives to combine old and new social, political and intellectual forms to meet the challenges of the radically unprecedented.

A detailed road map for transformative change is far beyond the scope of this piece, and at any event, space restrictions preclude it here. However we can point towards some of its guiding principles and initiatives. One promising avenue which is consistent with an eco-centric view of the world is reinvention of the notion of the retrieval of the commons – that is, the right of the people to develop and maintain commonly owned (i.e. socialized) institutions (such as health and ecological systems) and to challenge and limit the extent of privatization and prevent the dispossession of communities of their basic rights and institutions. Such movements to socialize and reclaim the commons within settler-colonial countries would

also be based on the principles of de-colonization alongside full recognition of the rights of autonomous indigenous movements and the integrity of their knowledge systems (Greenwood, de Leeuw, & Lindsay, 2018; Manuel & Derrikson, 2017; Shiva, 1997).

On a global level this perspective would be harnessed to a politics of justice and redistribution. It would be premised upon the moral equality of peoples in North (viz its rich core) and South (viz its relatively poor periphery). New forces are discernible that embody such concepts involving many millions of scientists, professionals, trade unionists, other workers' organizations and movements, and subordinated, often indigenous peoples, asserting the 'right to have rights'. They reflect a collective dynamic movement of diverse forces, which are plural by their nature. They share common interests in social justice and the sustainability and integrity of life on the planet. One might look to the cumulative wave of strikes across the US, led by teachers, nurses and educators, the majority of whom are women from low-income backgrounds, as one instance of a broad-based social movement working toward an equitable future. These new imaginaries seek to go beyond 'business as usual' in the face of an organic crisis of representation, legitimacy, development and ecology. These new forces seek to not only prevent the transformation of institutions of social reproduction (such as health and education) into the commodity form, but also to extend public goods and socialized institutions with a view to a more progressive and sustainable future.

This might point the way, as others in this special issue have argued, for pathways to *go beyond the destructive logic of market civilization* and repudiate the perspective embraced by political leaders that the categorical imperative of politics is connected to preserving the primacy of the market and private sector in the determination of social outcomes, consumerist lifestyles, food production and consumption and not least, identities and health. The first US President Bush dramatized the political obstacles to changing this perspective when he refused to attend the inaugural Global Environment Summit conference in Rio in 1992, saying, 'Our lifestyle is not negotiable'. The lifeblood of the market civilization lifestyle is linked to imperialism and the interests and activities of giant energy firms that not only drive pollution and fund climate change denial but also seek to continue to control and increase global supplies and consumption of oil and fossil fuels. Doing better with less might therefore become a metaphor for better lives, for health and for the planet.

Moreover, new thinking also implies including and devoting significant resources and political attention to the 3 billion unprotected, non-unionized workers world-wide, to those who do the unpaid and informal work (mainly women but also nurses and doctors) associated with care and other dimensions of social reproduction – as well as other marginalized workers and excluded communities that are currently not treated as part of the global political economy (Bakker, 2007, 2015). Such transformations might entail a shift in the nature of work and social provisioning toward more de-commodified, care-based, zero or low-carbon economies.

We have shown how under neoliberal market civilization, profits are increasingly derived from the wider exploitation, surveillance and commodification of increasingly individualized and marketized knowledge systems, life-worlds, food and the resources of the planet and its creatures, providing that they offer

opportunities for profit. In this way, despite its crises, contradictions and its hierarchical and unequal effects, capitalism is transforming our societies and the biosphere. The selective, neo-liberal individualizing approach to society and ecology tends to undermine community solidarity and caters principally to those able to pay. It stands ethically and politically opposed to universal and inclusive approaches (consistent with the UN covenants on human rights noted earlier) to support the general health of populations. It normalizes the global organic crisis by invoking 'business as usual'. Indeed, one could argue that the innovations of neoliberal capitalism actually represent a regression in global health practice as well as a retreat from universal human rights and other ethical commitments.

We conclude by suggesting that needed change would require very significant epistemological, cultural and political transformations. One could make a start by bringing together key concepts from the older 'Health for All' perspective, coupled to new ecocentric thinking and collective action. That might offer some optimism concerning the future.

Notes

1. A baby born in Pakistan is almost 50 times more likely to die within the first month of life than a baby born in Japan. But a country's income explains only part of the story. The risk of dying as a newborn in the high-income US and Kuwait (respectively 4.4 and 3.7 deaths for every 1000 live births) is only slightly lower than the risk for babies in low-income countries such as Sri Lanka and Ukraine (5.3 and 5.4, respectively). See (UNICEF, 2018).
2. This is the section of the world population at which 'poverty eradication' is hypocritically aimed by many policymakers and bureaucrats, with little real understanding of what it means to live at this level.
3. In the USA, where the health care system is privatized, a majority of the population are in favor of socialized provisions.
4. Cited in Jean M. Twenge. January 12 2018. "Tech bosses limit their kids' time on smartphones: why shouldn't we?" *The Guardian.*
5. Olivia Solon. 9th November 2017. Ex-Facebook president Sean Parker: site made to exploit human 'vulnerability'. *The Guardian.*
6. Hannah Kuchler. 30 January 2018. 'Health advocates: Facebook to scrap Messenger Kids App.' *Financial Times.*
7. Economic considerations cannot be avoided, given the extraordinarily high expectations of patients and physicians for care, even when treatments seem futile. Accountable, transparent priority setting is required to ensure sustainability. See Daniels and Sabin (1997).
8. As of 24th September 2018, the US government estimate of world population was: 7.51 billion. Estimates based on the US Census Bureau: https://www.census.gov/popclock/world.
9. Gross world product (the combined gross national product of all countries) was US $79.45 trillion in nominal dollars (2017 est.) and US $127 trillion in terms of purchasing power parity. Estimates taken from *CIA World Factbook 2017*. Available online at: https://www.cia.gov/library/publications/the-world-factbook/geos/xx.html. One estimate for 1950 gross world product was roughly US $4.082 trillion, measured in 1990 dollars (Delong, 1998).

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