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Capitalism, climate catastrophe and commoning: Hosseini and Gills on theory of value and what matters now

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ABSTRACT

The proliferation of policy notwithstanding, climate emergency continues to unfold and the need for new ideas is urgent. In this short article, I contextualize the need for ‘revolutions for life’ and set out some of the key ideas from Hosseini and Gills’ recent book *Capital redefined*.

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Introduction

In this short article, I provide some background material on why there is an urgent need for new thinking on how we organize society. I then briefly summarize some key ideas from Hosseini and Gills’ *Capital Redefined* and place it in the context of other sources of new thinking (Hosseini & Gills, 2023). The book argues that there is an urgent need to reformulate the current concept of value under a capitalist framework in order to both identify and transform its meaning and role. As such the book sets out to provoke debate and offers a useful way to rethink some fundamental ideas in a time of escalating crises.

Let’s begin. Scrolling through the newsfeed on your device of choice cannot but leave you with the impression that we have entered an unprecedented period of fear-inducing all-pervasive and accelerating crises.¹ No doubt the perception of such a state is in some respects not new. To a certain mindset, civilization was born in a permanent state of decline and civilizations have been rising and falling ever since the first monumental building rose to meet the dawn and the first priest-king placed his foot on the neck of his enemies. Nor is civilization-threatening environmental catastrophe new, just Google ‘4.2 kilo year event’ for an inkling of how long that has been with us. But for what matters to us now, to a certain extent, it does not matter if ‘we have been here before’ and, in any case, it is hard not to think we *really really* haven’t (been here before). People have populated much of the planet with varying density for thousands of years, global and regional links are likewise not new, but never have there been so many of us living in systems with such an impact on the planet and its capacity to sustain not only our way of life but ecosystems for existing forms of life.

There is an avalanche of statistics one might deploy here but a brief selection provides (to mix metaphors) a flavour of the direction of travel. In 1900 the world’s population was about 1.6 billion and global GDP was estimated at \$1.1 trillion. By the end of 2022 global population was 8 billion

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and GDP stood at \$101 trillion.² According to a special report from the IPCC on land use, there is 130 million km² of ice-free land surface and about 70% of this is occupied, farmed, exploited or managed by humans (IPCC, 2019).³ In terms of trends, global extraction pressures are intense, and, if anything, current technology-dependent transition plans within growth models are likely to increase that pressure (see Chagnon et al., 2022). Global material footprint per capita has risen from less than 10 tonnes per person per year in 2000 to over 12 tonnes now (see Figure A1 Appendix).⁴ Moving on, according to the annual *Statistical Review of World Energy* from the Energy Institute, on a global basis energy demand continues to grow and much of the introduction of renewables is eaten up by new demand rather than reducing current use of fossil fuels (Energy Institute, 2023). If one combines power generation, transport and heating, then solar and wind still only accounted for 5.3% of energy usage in 2022 and the total only rises to 14% if other longstanding sources such as hydroelectricity are included.⁵ Consumption of coal and gas achieved (at that time) record highs in 2022. According to the IMF total subsidies for fossil fuels also reached a record level of US\$7 trillion in 2022, an increase of \$2 trillion on 2021 (Black et al., 2023). This partly reflected growing implicit subsidies and windfalls as governments moved (with varying degrees of success) to protect their populations from rapidly rising energy costs in the form of caps and controls and compensation schemes against the backdrop of war in Ukraine. But behind this sits a further and unresolved dilemma regarding the cost of carbon in energy systems where too many are already struggling to heat and eat and behind that sit fossil fuel producers grimly determined to promote the continued need for oil and gas (if one reads beyond headline claims).⁶ At this most important of times, hesitancy on the back of previous complacency is infecting government (a discourse that circles doing something and doing enough). Meanwhile, despite committing at COP15 in 2009 to provide \$100 billion a year for climate action from 2020, in 2023 industrialized nations had still not achieved this target.⁷ Against this backdrop, as all the main data sources confirm, carbon emissions have yet to peak, never mind significantly reduce (see Figure A2 Appendix). As a result, we are rapidly eating up the remaining ‘carbon budget’. According to the IPCC’s synthesis report from its sixth reporting cycle (AR6):

Based on central estimates only, historical cumulative net CO₂ emissions between 1850 and 2019 (2400 ± 240 GtCO₂) amount to about **four-fifths of the total carbon budget** for a 50% probability of limiting global warming to 1.5°C (central estimate about 2900 GtCO₂) and to about two-thirds of the total carbon budget for a 67% probability to limit global warming to 2°C (central estimate about 3550 GtCO₂). (IPCC, 2023, p. 47, emphasis added)

The quote draws on Working Group I’s report, which was published in 2021 and its data ran to the beginning of 2020. It estimated about 500 GtCO₂ remaining for a 50% chance of restricting heating to 1.5°C (IPCC, 2021, p. 29, see Figure A3 Appendix). More recent estimates have updated that to about 411 GtCO₂.⁸ This too may be inaccurate. Behind the estimations are models and their findings depend on climate sensitivity measures (which estimate the amount of heating associated with a doubling of atmospheric CO₂). There is a great deal of uncertainty about these measures and in recent years the Coupled Model Intercomparison Project (CMIP) of the World Climate Research Programme has reported measures in some models that are significantly higher than previously thought likely.⁹ This translates into faster heating for given levels of CO₂ which in turn means smaller carbon budgets for given targets and likely worse outcomes. Along these lines yet another recent estimate put the remaining budget at as little as 250 GtCO₂ (Lamboll et al., 2023). In any case, based on current annual emissions trends we will burn through the highest estimate in less than a decade and the lowest in perhaps half of that. This ‘we’, of course, should be taken under advisement since

historically it is a few countries and corporations who are responsible for most of the cumulative emissions. Just as importantly, the notion of dematerialized and absolute emissions decoupled economies remains a chimera. As does the continued assumption that carbon capture and negative emissions technologies will have some meaningful impact on overall emissions and especially in the near future. Almost every country in the world has included some version of these technologies in their plans to achieve ‘net zero’ by mid-century. As things stand most of this is simply a convenient assumption added into forward projections – essentially an adjustment under the heading of carbon capture or negative emissions to allow for what has not been done to reduce our dependence on GHGs (see Figure A4 Appendix for an example from the UK’s suggested pathways).

It is, however, not just adverse trends but escalating consequences that matter. According to prominent members of the Alliance of World Scientists ‘state of the climate report 2023’:

Life on planet Earth is under siege. We are now in an uncharted territory. For several decades, scientists have consistently warned of a future marked by extreme climatic conditions because of escalating global temperatures caused by ongoing human activities that release harmful greenhouse gasses into the atmosphere. Unfortunately, time is up. (Ripple et al., 2023, p. 841)

And according to the previous year’s ‘climate emergency 2022 report’:

We are now at ‘code red’ on planet Earth. Humanity is unequivocally facing a climate emergency. The scale of untold human suffering, already immense, is rapidly growing with the escalating number of climate-related disasters ... 2022 marks the 30th anniversary of the ‘World Scientists’ Warning to Humanity’, signed by more than 1700 scientists in 1992. Since this original warning, there has been a roughly 40% increase in global greenhouse gas emissions ... **The consequences of global heating are becoming increasingly extreme, and outcomes such as global societal collapse are plausible and dangerously underexplored.** (Ripple et al., 2022, p. 1149, emphasis added)

Plausible and dangerously underexplored ... It’s easy to underappreciate just how fragile our ways of living – our habitation patterns and systems of provisioning – are, though the escalation in language use indicated by ‘the era of global boiling has arrived’ might give one some clue.¹⁰ In some respects, former successes have created potential vulnerabilities that speak directly to this issue of fragility. For example, since the 1960s there have been amazing increases in crop yields (see e.g. Figure A5 Appendix), but this has not come without costs in terms of cumulative effects on long-term quality of soil and effects such as nitrate impacts on ground and surface water (see Bijay-Singh & Creswell, 2021; Pahalvi et al., 2021). The combination of longer term soil and water effects and continual erratic weather and growing extreme climate events raises the prospect of falling agricultural yields and crop failure (a heatwave here, a flood there, a drought and so on). Few countries are self-sufficient and every country relies to some degree on regional and global trade in foodstuffs and other commodities. We have developed a system where failure to produce in one place can be compensated for by output in another. But what happens if yields fall or crops fail in multiple countries? What happens if this keeps happening?

Wealthy countries are used to buying their way out of problems, but do old rules apply in a new world of shortage? What does a government do if its population is hungry and restive and a corporation is visibly exporting? History suggests property is king and capitalism is indifferent, but the past is not fate and is no guarantee of what will happen. Fiat money has no intrinsic value and its use depends on trust backed by rules, backed by power of sanction. None of this is secure. Nor should we forget that subsistence and smallholder farming still account for hundreds of millions of people (an estimated 84% of an approximate 608 million farms, accounting for 12% of all agricultural land) and that around two billion people around the world work in the informal economy.¹¹ Safety nets for some are few to non-existent.

Consider also that an area of the world does not need to become uninhabitable in the sense of ‘no one could live here any of the time’ for it to become difficult if not practically impossible to live there. It needs merely become inhospitable or hostile enough of the time. To some degree, this is not an issue conducive to precise evidence-based answers. Its context is whether it makes sense to endure in the face of the growing frequency of extreme climate events.¹²

Extreme climate events are trauma, they are materially and psychologically destructive. What do we see around us and what might we see? Wild fires and ferocious winds rip through communities destroying buildings and forcing families to flee, floods saturate the land and inundate homes with sewage, pollute water sources, compromise wiring and damage appliances. Extreme temperatures mean life and comfort become increasingly dependent on controlled environments and controlled environments in turn depend on technology and electrification, which may or may not be precarious. Hostile weather persists in ways that previously it rarely did. The ‘heat dome’ phenomenon, for example, is punishing to human health and makes everyday activity a debilitating grind.¹³ Moreover, conditions likely to cause heat stress eventually become threatening to life, especially if high temperatures are combined with humidity. According to NASA Climate,

Wet-bulb temperature is the lowest temperature to which an object can cool down when moisture evaporates from it ... Once the wet-bulb temperature exceeds 35 degrees Celsius (95 degrees Fahrenheit), no amount of sweating or other adaptive behavior is enough to lower your body to a safe operating temperature.¹⁴

Estimates suggest a healthy person might survive six hours, others are at risk at lower wet-bulb levels and over shorter periods. While 2023 was the hottest year on record so far (just under 1.5°C above preindustrial levels), on average we are only at 1.1–1.2°C of heating. Still, extreme heat events are already common, and widespread life-threatening wet-bulb effects are an increasingly possible future.¹⁵ In the meantime, how climate resilient people are and how adapted property, infrastructure and society can be made have become questions of general concern. In the end, if one knows extreme events are not only likely to recur but are likely to become more frequent, more extreme and possibly compounded by conjoint climate effects, why remain, why rebuild? Unless one has no choice. But what conditions choice?¹⁶

We are used to the idea that war creates exceptional circumstances where the usual rules do not apply. In war governments appropriate property and resources for national purposes. At the same time, war leads to a general understanding that borders are both important and porous. We think differently about the movement of populations under such circumstances. It is very evident that, despite the rhetoric, we haven’t yet started to think of climate emergency as a genuine ‘emergency’ requiring responses akin to war. While government security agencies may be role-playing various scenarios driven by climate change, and the rest of us are becoming used to a language of displacement and climate refugees, we are not yet being prepared for the worst case of how things might go, despite the odd prominent work, such as *Nomad Century* (Vince, 2023).¹⁷ We are, however, being primed to respond in fear and ignorance thanks to the current politics of migration in which the distinction between legitimate concern and culture war panic is obscured. It is also worth noting that IPCC models are not set up to deal with societal effects realistically, and ecological breakdown and climate change which might exacerbate societal effects are happening faster than anticipated.¹⁸ The UN voices concern and there is a growing sense of unease, and there are more and more instances of population pushes and pulls, but this is yet to translate to any clear sense of global recognition and coordinated response to EMERGENCY. We have the news cycle, we have the language, but we don’t have the action.

‘The worst case of how things might go’ is also a tricky phrase now. The atmospheric concentration of CO₂ is only one of several ‘safe planetary boundaries’ we have exceeded and as climatologists and Earth system scientists never tire of saying GHGs take decades, centuries and thousands of years to work their way through processes and anthropogenic effects are cumulative and liable to positive feedback loops and phase transitions.¹⁹ Based on what has already been done there are effects that cannot be avoided. They are facts in waiting. The rest is up to ‘us’ in a general sense and up to a decisive few in the sense of where emissions are produced and who has the immediate power to make macro-decisions. What we can reasonably say though is that our ways of living are putting stress on planetary and social cohesion in multiple ways. This is a global wake-up call that civilization as we know it is in jeopardy and something must be done before it is too late. This brings me to Hosseini and Gills or almost does. According to *Capital Redefined* our current situation provokes a rethinking of value theory in a capitalist framework and this in turn speaks to ‘commoning’. This too requires some context.

Commoning theory and its compatriots

It should be clear that there is great need for new ideas. This, of course, does not necessarily mean new in the moment but rather new as dominant ways to govern and organize society. Still, given the scale of the problems we now confront, the prospect may seem daunting, not to say overwhelming. Two points, however, are worth making to ease us into discussion. First, as most readers are no doubt aware a great deal of focus is being placed on technology as a response to the predicament we find ourselves in. Clearly, ramping up renewables, rapid electrification etc. are not stupid things to do, but placing primary emphasis on the role of technology without thinking about the nature of society into which technology is introduced and which influences how technologies evolve and are used, is problematic on multiple fronts. It is odd because it tacitly assumes that using different things to do what we do will be mainly sufficient. Moreover, it is odd because it mainly bets the future on invention, scalability and commerciality, all of which are uncertain. In making that bet it takes attention away from the things we have immediate control over and that is how we decide to organize and what we decide to do which draws on resources, affects ecosystems and produces emissions and waste. We have become so accustomed to solving ‘coordination problems’ using markets that we are in danger of forgetting that conscious social redesign as a response to a recognized problem is the sane thing to do and especially given the global disaster that is looming. The fact that we are encouraged to think of primary and major social redesign as the unrealistic alternative just indicates how irrational the rationality of society has become, though clearly, this is more the case in some places than others.²⁰

It is, furthermore, easy to conflate progress with technology and economic growth. Yet metrics of national income, such as GDP, and global aggregations of these metrics, tell us nothing in particular about the products and services that stand behind the metrics and thus about the processes involved and their consequences. What we do know though is that larger economies use more material resources and energy, the impacts of which means that the scale of the ecological and climate problem to be solved tends to increase. Month to month, year to year. This ultimately is what stands behind the ‘avalanche of statistics’ set out in the introduction and brings us to our second point. Capital accumulating, consumption-focused industrial economies are built around quantitative expansions. They are built around continuous growth, they presuppose growth and are resistant to steady states and are in crisis if they contract. Whatever their other merits, they are the very source of our climate and ecological problems and there is, based on observable trends, no reason to

assume they can solve those problems if the drivers remain the same. This is a quite different reading of the state of the world than one finds, for example, in Hannah Ritchie's *Not the End of the World* (Ritchie, 2024). It implies a more fundamental need for economies to evolve since otherwise, technology notwithstanding, we will likely condemn future civilization to oblivion, and perhaps sooner than we like to think.

There are various voices, however, prepared to countenance greater focus on social redesign – reorganizing what we do around different ways of solving the problem of provisioning and satisfying needs.²¹ As various analyses have established, no country currently meets a baseline for its citizens to live a ‘good life’ without resource use which transgresses biophysical boundaries (see most notably Hickel, 2019; O’Neill et al., 2018).²² Moreover, in order for it to be possible for the world’s population to achieve this ‘good life’ then in addition to rapid technological transitions, income inequality must rapidly fall and all countries must stop targeting economic growth as an unqualified systemic goal and at least the wealthiest nations must bring economic growth (not change, not progress) to a halt.²³ The latter is a hard thing to hear if you live in the global North, especially given the current levels of income and wealth inequality and sense of precarity that prevails in many countries. It is not a given that you feel well-off and/or secure.²⁴ Still, for a sense of perspective, if you are an adult in the UK earning the median household income of £32,000 for 2022, then by this (admittedly simplified) measure you are in the top 1.8% of the world’s population.²⁵ Moreover, arguments for social redesign are not about spreading suffering, they are about making us think differently about the collective good and how it is achieved. They are about reinvigorating democratic participation in everyday life, reorganizing priorities and redirecting resources.²⁶ As such, the argument is that the necessary changes in scale and intensity of economy can be accompanied by positive changes in well-being. The best known of these arguments derives from the ‘degrowth’ movement. As its main proponents make clear, degrowth is *not* an equivalent to recession or a contracting economy as currently conceived. As Hickel puts it (2021):

- (1) Recessions are unintended, degrowth concerns planned, coherent policy.
- (2) Degrowth targets less necessary and more harmful economic activity, recessions do not.
- (3) Recessions create unemployment and damage livelihoods, degrowth redirects resources and seeks just transitions, whilst generally focusing on improved livelihoods.
- (4) Recessions tend to exacerbate inequality (wealth and income), whilst degrowth seeks to reduce inequality, sharing national and global income more fairly.
- (5) Recessions typically lead to austerity in which public goods and services suffer, degrowth looks to ‘decommodify’ foundational goods.
- (6) Degrowth advocates rapid transition to renewable energy and reversal of ecological breakdown, recession typically causes such policy to be abandoned based on short-term overriding concern to ‘get growth going’.

While it is not possible to do justice to the substantive argument here (not least proponents’ attempts to persuade the global South that degrowth is not asking the rest of the world to make sacrifices for the sake of the global North’s standard of living), for its proponents degrowth is the rational alternative to eventual uncontrolled societal and economic collapse.²⁷ Its main focus is a massive redirecting of resources to meeting health and social care needs and to changing the way we think about consumption – a shift from consumerism, with its focus on the continual act as an end in itself to thinking differently about what we want – and our industrial needs. Degrowth shares some goals and arguments with ‘social ecological economics’ whose main proponent is

Clive Spash, albeit there are differences in the underlying approach to theory and Spash has been sceptical regarding the coherency of degrowth. Spash, for example, has a more developed and detailed critique of the nature and consequences of mainstream economics, growth economies and market pricing and is critical of 'naïve pragmatism' and eclectic 'methodological pluralism' in drawing on theoretical resources to underpin both critiques and alternative practices (Spash, 2024).

No doubt there are others occupying some of the same intellectual space – arguments that go beyond the formative work in the original Limits to Growth project, since this placed most of its focus on material impacts and trends and gave little focus to how a capital accumulating economy drives the process – and there are some who are less clear on whether growth under some description is feasible and can be accommodated and Kate Raworth's agnosticism is likely the highest profile example of these (on Raworth see Spash, 2021).²⁸ In any case, it is against this background that Hosseini and Gills' *Capital Redefined* has been written. Although the main substantive works with which the book engages are not the previously stated ones, the book starts from the premise that there are numerous movements or 'Revolutions for life' that are concerned by impending ecological and social collapse and a recognized need to reorganize what the goals of society are and how those goals are achieved. The book's starting point, however, is that the process of value as a key driver of a capital-accumulating economy needs to be rethought in order to expedite transformation and so there is a need for a different theory of value. While Marx and ecology is a focus that has already been addressed in various ways by Kohai Saito, John Bellamy Foster, Jason Moore, David Harvey and others, *Capital Redefined* attempts something 'novel', a normative theory of value making the case for 'commoning'. In any case, according to Hosseini and Gills:

Redefining capital necessitates redefining 'value' in the process. Although the notion of value has been neglected in most modern social theories, Marx's assertion that 'value forms the foundation of capital' remains as relevant as ever. This however raises the question of how to redefine capital while also acknowledging the value of socioecological relations in shaping it. These relations should not be seen simply as a context or precondition, but rather as a set of interrelated causal mechanisms that are embedded *in* and *against* capital. (Hosseini & Gills, 2023, p. 10)

The premise of the book is fairly simple, capitalism is dependent on human potential which it distorts and harms – our creativity and sociality – and capitalism is destructive of both human well-being and the various components of the biosphere it is embedded in and extracts from. As such, the process of value in capital is in some sense at odds with what should be really valued and it is by critical analysis and practical responses that we seek to achieve forms of living that are sustainable for both humans and other living things. Those ways of living may be generally categorized as 'commoning' – an emphasis on collaborative, convivial, and cooperative relations of provisioning &c in a socio-economy that encompasses 'more than human' concerns.²⁹ Achieving these ways of living, however, requires also undoing the power structures of capital and the socialisations that both cause harm (alienation &c) and make thinking differently about society and economy difficult. The book is mainly a development of concepts as frameworks to think through this simple idea and this leads to the introduction of a terminology which repeats in various guises throughout the book – hence *Capital Redefined*.

So, the authors argue that there is a historic functional interdependency between capitalism, colonialism and Western modernity and that capital is characteristically 'modular', which accounts for its observed capacity to vary and endure in response to its own internal drivers and its induced problems. Modularity is a systems theory concept that 'describes the degree to which a system's components can be separated and recombined' and capital's modularity 'entails a set of radically interrelated social relational and socio-historical processes and mechanisms' (Hosseini & Gills,

2023, p. 44). For the authors, capitalism is an ‘ensemble’ of interrelated continually changing parts in relations – its modularity is ‘infra-processual’, but also connected into the broader ‘life domain’ (the interconnected system of all living things and their environment). Modularity notwithstanding, capitalism’s typical relational forms are parasitic on the underlying potentials and capacities of its components and the broader life-domain. In fleshing this out the authors draw on critical realist ontology and place this in a Marxist context: reality is stratified, emergent, and exhibits dialectical causal complexity; processes may be ‘morphostatic’ or ‘morphogenic’ and transformative emancipation works to nurture and actualize real potentials – including from absences.

At the heart of the argument, however, is a conception of value. According to the authors, in capital’s conception of value,

Labor is not only shortchanged in terms of its real value [in the quantitative sense of surplus in relation to socially necessary labour time], but also in terms of its ‘true value’ [closely associated with ‘well-living’], lost due to its alienation from its commoning nature as a creative power. (Hosseini & Gills, 2023, p. 30)

This leads to the concept of fetish value:³⁰

the value that is not only the result of but also results in damaging the more-than-human capacities to generate true value ... Fetish value is thus understood as a quality attributed to the results of any decommoning activity under capital, which is socially fetishized to appear to have an intrinsic value for the well-being of the individuals and collectives involved ... True value, on the other hand, is any quality definitive and advantageous for the survival, self-fulfilment, and liberation of more-than-human organized life [where this is also decided consensually and organised to defetishize relations]. (Hosseini & Gills, 2023, pp. 37–38; emphasis in original)

Much of the book is given over to discussion of the various aspects of this fetish value to true value relation as it bears on infra-processes in modular capitalism, and it should be emphasized that the authors mainly use ‘true’ in the sense of ‘true to’ or ‘what could be the case’, rather than necessarily in the sense of what has ever existed i.e. it concerns how things might be based on ‘real potential’ (e.g. Hosseini & Gills, 2023, p. 45). True value does not seem to be intended to refer to a simple prior existing original state to which humans return, albeit there are lessons to be learned from actually existing alternatives, and in combination with ‘real potential’ the authors refer to true value as a normative concept. With reference to this context of meanings, capital is said to decommonise, exploit and appropriate. Here the authors draw on a version of Aristotelian causation as a way to introduce categories of ‘fundamental commons’ which allow for the realization of true value (Hosseini & Gills, 2023, pp. 17; 65–72):

- (1) Creativity as ‘efficient’ commoning cause of true value.
- (2) Liveability as the ‘material’ commoning cause.
- (3) Conviviality as the ‘formal’ cause.
- (4) Alterity as the ‘final’ commoning cause of true value.

I could go on but this is sufficient to get a sense of what the books sets out to achieve.

Conclusion: what kind of contribution to needed ideas is *Capital redefined*?

Capital redefined is short, just 127 pages without notes and bibliography, and it is not ‘empirical’ in the sense of supported by the use of detailed evidence, examples and so on. It is more along the lines

of a meditation or intervention and is by its own acknowledgement a work in progress intended to initiate discussion. The nature of that discussion, however, could follow at least two tracks, questions provoked about the adequacy of the argument and questions provoked about its relevance to the world. In terms of the former, one might argue that there is a great deal more to say about the treatment and centrality of a labour theory of value. The book identifies four limitations of a 'traditional Marxist conception of capital' and splits approaches to theory of value into objective and normative theory (Hosseini & Gills, 2023, pp. 23, 32–36). While this is thought-provoking, and reframing value in capital as a negation or distortion makes one think differently about some long-standing issues, it is not always that clear how the argument as stated maps onto existing debates. There is relatively little substantive content from Marx or from Marxists or interlocutors. This, of course, is not really the point of the book, since the existing work on its subjects forms a point of departure, but one can readily foresee responses from a wide range of perspectives – Saito, Bellamy Foster, Moore, as well as more traditional Marxist political economists such as Ben Fine.³¹

And no doubt there will be responses from those who question whether it makes sense to begin from a theory of value at all. One could, for example, make the point that while we need good ideas, do we need a new lexicon to address foundational problems in a time of climate emergency? The core issue of growth is relatively well understood, even if many are in denial about this, the basic issue of smaller economies with a different approach to metabolic flow is relatively easy to grasp and the need to redirect economic activity to things which matter most in terms of needs and provisioning is likewise common sense in this context. Do I need to be persuaded that I am pursuing true value and engaging in defetishising in order to engage in the actions that need to be done? In this sense, one might ask, who is the book for and who do its ideas serve? Arguably one of the biggest challenges today is that many of the economies currently producing the most emissions are authoritarian, and what is needed here is practical political strategies that can lead to meaningful changes in this context. The parallel problem is that wealthy countries have not come to terms with issues such as global redistribution, technology transfer or financing (instead we are in the early phase of a new competition to dominate twenty-first-century technologies and markets in which China and to some degree India are seen as threats).³² I by no means wish to be dismissive here, I am merely putting the question to the authors, and noting this question ties questions provoked about the adequacy of the argument to questions provoked about its relevance to the world.

The authors might respond, of course, that they adopt a broadly critical realist approach, which, in a certain sense is a particular claim on how the world is, and so they are providing a better theory of how things are which allows for things to be other than they currently are (an emancipatory theory of reality). Realism has some common commitments, its emphasis on a stratified, emergent, depth realist open systems ontology (its 'realist' ontology), as well as the case it makes for epistemological relativism and judgemental rationality. But use of critical realism also invites questions, since it is not just a settled repository of concepts, it is a discourse in active development and which exhibits diversity and debate.³³ In this context, the book draws on various proponents of critical realism but omits others one might think relevant. If discussing ecological issues, this might include Clive Spash, Hubert Buch-Hansen, Petter Naess, Leigh Price and perhaps John O'Neil, Andrew Sayer, Kate Soper and Ted Benton. If discussing the need for new ways of reconstructing regional and global organization for the purposes of cooperation and democratic renewal, then one might include Heikki Patomäki (including his work on critical cosmopolitanism).³⁴ If making claims about the nature of capitalism an obvious referent is Bob Jessop, and in terms of a theory of value one might also address the recent work of Dave Elder-Vass (a realist who rejects labour theory of value and adopts a version of French conventionalism). Finally, if wanting to locate

realist debates on the role of Marx one might turn to Jonathan Joseph, Sean Creaven or Andrew Collier and if one was to cast the net wider, one might note one main focus of debate among realists in economics has been the continual debate among Post Keynesians regarding Marx, Piero Sraffa, Michal Kalecki and Joan Robinson and here one might turn to authors such as Nuno Martins.³⁵ To be clear, the book does not turn to these, and to reiterate it treats critical realism as a repository of useful concepts to underpin its own framework. This is another omission one might think will invite some discussion. For example, the authors suggest realism is a ‘method’ but not every proponent would agree that was the case.³⁶ As with the previous points I have made though, the material at stake goes beyond the current focus of the book and thus might reasonably be deemed part of the discussion it intends to provoke.

Omission, of course, is not a necessary signal of ignorance. It is worth noting that any book to which Barry Gills name is attached cannot be assumed to have been written in the absence of a deep understanding of world history, world systems theory, and ecological-climate trends and debates and Hamed Hosseini has been working on various aspects of alternative futures for well over a decade.³⁷ To conclude then, it is surely the case new ideas are needed and perhaps *Capital Redefined* will prove an important catalyst. Still, a lot of what we need, to coin a phrase, isn’t rocket science, it is the obvious hiding in plain sight. There is no Planet B and we need to stop acting like we have choices we don’t have.³⁸

Notes

1. ‘Crisis’ has of course, lost some of its original meaning as a point of inflection where someone suffering illness either got better or worse.
2. Visit: <http://databank.worldbank.org/data/download/GDP.pdf>.
3. This decomposes into 12% cropland, 37% pasture and shrubland (used mainly for livestock), 22% planted or managed woodland, and 1% ‘infrastructure’ (meaning ‘settlement, transportation and mining’ – a small part in terms of extent but focal for the supply chain implications of the rest). Hence 70% (though there is a margin of error and estimates rise to 75%). The remainder is barren land, primary forest and unforested areas barely touched by human intervention (IPCC, 2019, pp. 8, 86).
4. One might also note that water security is another urgent issue. Global water use has increased from an estimated 670 billion cubic metres a year in 1901 to about 4000 billion cubic metres a year in 2014. A tiny fraction of the world’s water is freshwater and stress on systems has increased greatly since the 1960s. Visit: <https://ourworldindata.org/water-use-stress>. The UN held its first dedicated conference on water in March 2023: <https://www.unwater.org/news/un-2023-water-conference>. See also Moore (2023). Note Hannah Ritchie is head of research at Our World in Data (one need not agree with her assessment of the world in order to find the material produced interesting, see later reference).
5. It is also important to note that measures like energy mix are relative, so year to year fossil fuel proportions may be lower and yet total fossil fuel use may be higher and this has been the case over the last twenty years and more i.e. a small drop in proportion of the energy mix but a huge increase in total consumption.
6. The first prediction of peak oil is usually attributed to Shell geologist M King Hubbert in 1956. He predicted a peak in 2000. Since then shale oil and gas and new technologies for identifying and extracting fossil fields have ensured supply has continued to grow and the focus these days is peak demand. Meanwhile, OPEC, Exxon, Chevron, BP and Shell all seem committed to promoting continued fossil fuel use and, as the IEA notes, their investment in alternatives remains a small fraction of investment in fossil fuels (about 5% in 2022). Shell and BP have both delayed previously announced plans to reduce production of oil. See Yeomans (2023).
7. For analysis produced for the 2023 Paris conference on climate finance visit: <https://focus2030.org/Special-Edition-New-global-financing-pact-what-to-expect-from-the-June-22-23#Solutions>. On social purpose and finance see end of Morgan (2023).

8. An estimate of 2479 GtCO₂ used from a budget of 2890 GtCO₂. Note, the figures do not include other GHGs or other factors like cooling from aerosols, these are adjusted for in other aspects of the IPCC AR6 reports. See also: <https://www.scientificamerican.com/article/wealthy-countries-have-blown-through-their-carbon-budgets/>.
9. This is despite moves to improve consensus and firm up the science across the different methods used to construct models which had resulted in some narrowing and firming of the range. Visit: <https://wcrp-cmip.org/cmip-overview/>. CMIP is now early in its seventh phase. The sensitivity measure issues began to emerge in CMIP6 and CarbonBrief has a useful in-depth analysis of CMIP6 models: <https://www.carbonbrief.org/cmip6-the-next-generation-of-climate-models-explained/>.
10. Visit: <https://news.un.org/en/story/2023/07/1139162>.
11. The data is an independent estimate in research from Lowder et al. (2021), but builds on research from and is reported by the Food and Agriculture Organization of the United Nations. Visit: <https://www.fao.org/news/story/en/item/1395127/icode/>. On informal economy visit: <https://data.undp.org/informal-economy/>.
12. As previous sentences indicate, this might be phrased more accurately as climate change exacerbated extreme weather events and their consequences. Consider extreme climate events a shorthand.
13. According to the Royal Meteorological Society, ‘a heat dome is created when an area of high pressure stays over the same area for days or even weeks, trapping very warm air underneath – rather like a lid on a pot ... The problem with a stubborn area of high pressure is that already warm or hot air trapped under the high will become hotter and hotter, creating a heat dome. Hot air will rise into the atmosphere, but high pressure acts as a lid and causes the air to subside or sink. As the air sinks, it warms by compression, and the heat builds. The ground also warms, losing moisture and making it easier to heat even more. Until the pressure pattern changes, the high will continue to exacerbate the hot conditions, bringing a risk of wildfires, drought and heat-health issues’. The jet stream can readily lead to areas of high or low pressure becoming trapped. Visit: <https://www.rmets.org/metmatters/what-heat-dome>. For interactive data which illustrates the problem of extreme heat focused on the USA, visit: <https://www.heat.gov/>.
14. Visit: <https://climate.nasa.gov/explore/ask-nasa-climate/3151/too-hot-to-handle-how-climate-change-may-make-some-places-too-hot-to-live/>. The quote continues: ‘The lower the wet-bulb temperature, the easier it is for us to cool down. It measures how well our bodies cool down by sweating when it’s hot and humid, and tells us if conditions may be harmful to our health, or even deadly’.
15. Science fiction has already provided conjecture, see, for example, Robinson (2020).
16. For a review paper on some of the problems that research on climate, conflict and migration (CCM) has experienced see Watson et al. (2023).
17. Vince argues that we are facing an unprecedented mass movement of people. See also the recent discussion piece in PNAS on the lack of realistic discussion of worst cases and climate catastrophe in *Proceedings of the National Academy of Sciences* (Kemp et al., 2022).
18. See Steve Keen’s report for Carbon Tracker (Keen, 2023), also Keen (2021); Asefi-Najafabady et al. (2021); on climate sensitivity measures see, Derbyshire and Morgan (2022).
19. See the interview, Steffen and Morgan (2021).
20. And it is not like major social redesign has been without its problems. China’s economic miracle is arguably a redesign.
21. Note, many ecological economists begin from Max-Neef (1992) on this.
22. The research has its limitations but is an interesting exercise. It uses seven biophysical indicators (CO₂ emissions, phosphorous, nitrogen, blue water, embodied Human Appropriation of Net Primary Production or eHANPP as an indicator to quantify pressures on ecosystems, ecological footprint and material footprint) each with a per capita unit metric, and eleven social indicators (life satisfaction, life expectancy, nutrition, sanitation, income, access to energy, education, social support, democratic quality, equality and employment), and most of these indicators use 2011 data. Visit: <https://goodlife.leeds.ac.uk/>.
23. It remains the case that income inequality is closely associated with emissions. According to Oxfam the top 1% produced 16% of world emissions in 2019. See Khalfan et al. (2023). And note, ‘at least’ is a highly contentious issue.

24. For example, in recent UK data, of the 2.5 million categorised as economically inactive adults suffering with long term illness, 635,000 were categorised as suffering with anxiety, depression, nerves, phobias and panics and this is steadily increasing across the age spectrum. See Calver (2023). This is just a small part of those who experience adverse well-being.
25. If one, for example, uses the ‘How Rich am I’ calculator: <https://howrichami.givingwhatwecan.org/how-rich-am-i>. This, however, raises questions in terms of various issues of context that affect comparative statistics and lived experience.
26. For an interesting collaborative work on planetary boundaries, social relations and self-limiting which includes among its numerous authors both Clive Spash and Giorgos Kallis see Brand et al. (2021).
27. For discussion see Ghosh and Morgan (2022).
28. Under ‘others’ see, for example, on issues regarding the role of the state in transitions to postgrowth society, Koch (2020).
29. For a recent different take see Mazzucato (2023).
30. For some context see Chapter 1 Section 4 of *Capital Volume 1* for Marx’s discussion of the fetishism of commodities, he refers to fetishism in the sense of an analogy between the mystification of the relation of labour to the value of commodities and the appearance in religion of products of the imagination as real objective beings (gods etc.).
31. See, for example, Fine and Saad-Filho (2018); Saad-Filho (2002).
32. On strategy (symbiotic, interstitial etc.) Erik Olin Wright (2010, 2019) is often a main source but its relevance is arguable.
33. A point that informs the excellent textbook Buch-Hansen and Nielsen (2020), see Morgan (2021).
34. See, for example, Patomäki (2018, 2023); Patomäki and Morgan (2023a, 2023b).
35. See, for example, Elder-Vass (2022); Sayer (2023); the interviews Sayer and Morgan (2022), Jessop and Morgan (2022), Groff and Morgan (2022); then Martins (2023); and for further context Alves (2022); Fine (1980, 1986); Kerr (2007); Shaikh (2016); Morgan (2022); and re critical realism and Marxism see Creaven (2007); Morgan (2018). For one main origin of misunderstandings of Marx see Samuelson (1971).
36. Note, to be fair to the authors (and according to one of them in correspondence) they do not intend to imply that critical realism is a method in itself rather they are employing a critical realist methodology and methods. However, statements such as ‘Answering this question requires a deep understanding of the connections between Marx’s approach to causal explanation, critical realism (CR) as both a meta-theory and a method of causal analysis ...’ (Hosseini & Gills, 2023, p. 47) are liable to result in some confusion and it remains the case that some prominent critical realists (notably Tony Lawson) object to the idea of critical realist methods as opposed to just methods that critical realists use along with everyone else.
37. In any case see, for example, Gills (2020); Gills and Hosseini (2021); Gills and Morgan (2021a, 2021b).
38. Not forgetting the threats and opportunities inherent in the rapid development of AI, machine learning, robotics and bioengineering (Suleyman 2023).

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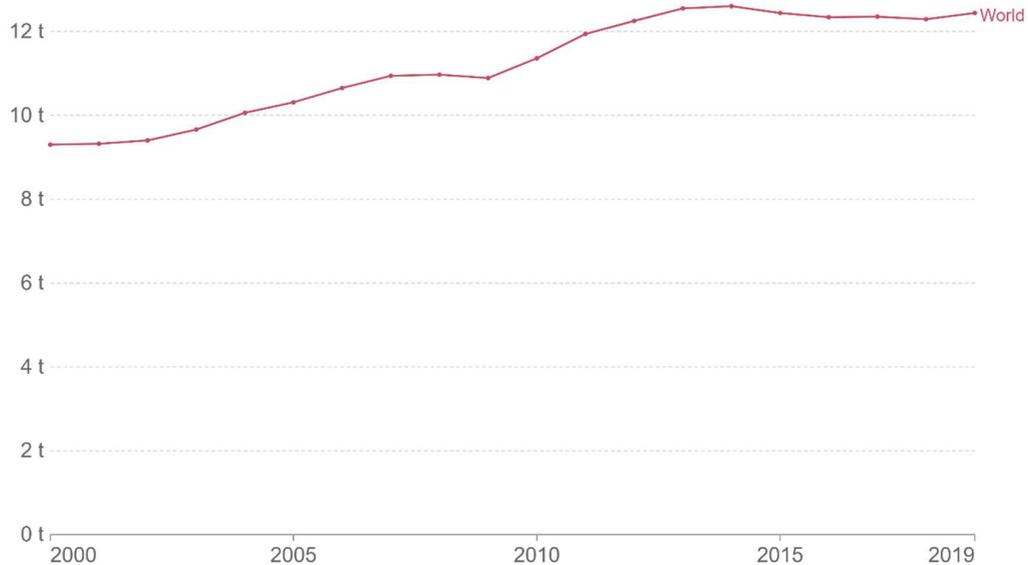
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Appendix

Material footprint per capita, 2000 to 2019

Our World
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Material footprint is the quantity of material needed to meet a country's material demand. It is material production, adjusted for trade. The total material footprint is the sum of the material footprint for biomass, fossil fuels, metal ores, and non-metal ores, given in tonnes per year.



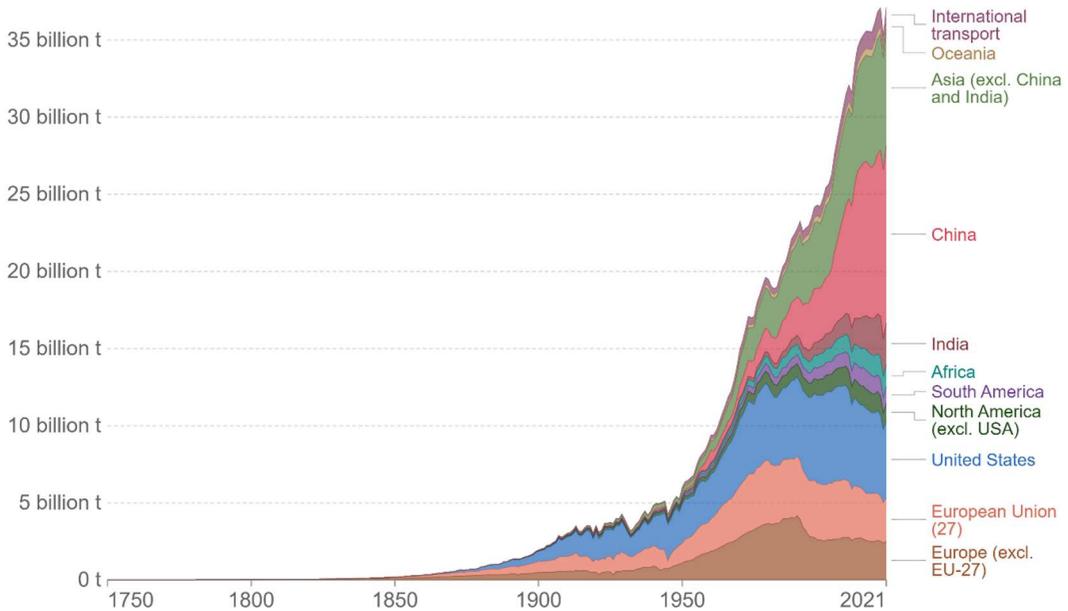
Source: UN Statistics Division

OurWorldInData.org/biodiversity • CC BY

Figure A1. Material footprint of the species continues to grow. Visit: <https://ourworldindata.org/grapher/material-footprint-per-capita>.

Annual CO₂ emissions by world region

This measures fossil fuel and industry emissions¹. Land use change is not included.



Source: Global Carbon Budget (2022)

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1. **Fossil emissions:** Fossil emissions measure the quantity of carbon dioxide (CO₂) emitted from the burning of fossil fuels, and directly from industrial processes such as cement and steel production. Fossil CO₂ includes emissions from coal, oil, gas, flaring, cement, steel, and other industrial processes. Fossil emissions do not include land use change, deforestation, soils, or vegetation.

Figure A2. Carbon emissions show no sign of significantly reducing. Visit: <https://ourworldindata.org/co2-and-greenhouse-gas-emissions#global-emissions-have-not-yet-peaked>.

Global Warming Between 1850–1900 and 2010–2019 (°C)		Historical Cumulative CO ₂ Emissions from 1850 to 2019 (GtCO ₂)					
1.07 (0.8–1.3; likely range)		2390 (± 240; likely range)					
Approximate global warming relative to 1850–1900 until temperature limit (°C) ^a	Additional global warming relative to 2010–2019 until temperature limit (°C)	Estimated remaining carbon budgets from the beginning of 2020 (GtCO ₂)					Variations in reductions in non-CO ₂ emissions ^c
		Likelihood of limiting global warming to temperature limit ^b					
		17%	33%	50%	67%	83%	
1.5	0.43	900	650	500	400	300	Higher or lower reductions in accompanying non-CO ₂ emissions can increase or decrease the values on the left by 220 GtCO ₂ or more
1.7	0.63	1450	1050	850	700	550	
2.0	0.93	2300	1700	1350	1150	900	

Figure A3. IPCC AR6 estimates of remaining carbon budgets (IPCC, 2021, p. 29, Table SPM.2).

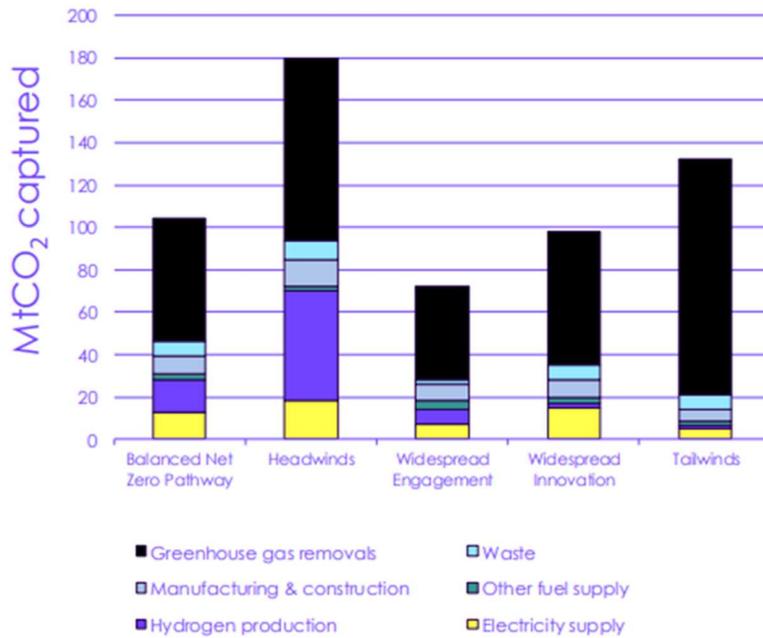
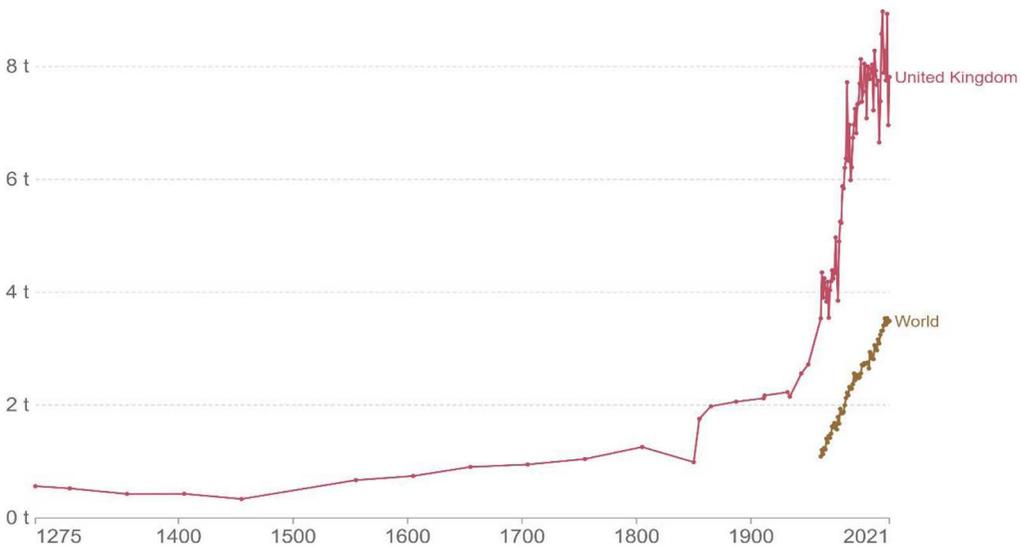


Figure A4. An example of assumed role for carbon capture and negative emissions. Source: CCC (2020, p. 81).

Wheat: Yield

Yields are measured in tonnes per hectare.



Source: Food and Agriculture Organization of the United Nations; Bayliss-Smith & Wanmali (1984); Brassley (2000); Broadberry et al. (2015)
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Figure A5. An example of rapid crop yield growth since the 1960s (world with UK as comparator). Visit: <https://ourworldindata.org/crop-yields>.