

Theme issue contribution

Interpellating Finance – a dramaturgical model for green bond pricing

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Abstract


Global financial governance is turning green. Attempting to tackle climate change, financial elites seem to swing confusingly between hesitant and action aimed at relieving the contradictions that led to the crisis, and opportunistic co-optation of critical discourse. Drawing on the work of Althusser, Laclau and Butler, we describe the historical emergence of this green financial apparatus and the related proliferation of green labels and signifiers. Green labels serve as the malleable ground on which a diversity of meanings and positions are articulated and temporarily fixed. Labels are the names through which financiers are interpellated and constituted as green ideological subjects. Through an analysis of the mechanisms of green bonds pricing, and of the actors involved in a green bond boot camp, we contend that the added value of green financial instruments, called the *greenium*, cannot merely be attributed to the performativity of models and formulas for risk engineering. Rather, it is the material effect of a subjectivation apparatus attuned to the existing relations of production. Ultimately, the greenness which becomes encrypted in the *greenium* is a process of translation of language of capital valorisation, performed through the tendency of capital to reproduce relations of exploitation in transitional time.

Keywords: green bonds; labels; interpellation; Althusser; Laclau; Butler

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Introduction

Global financial governance is turning green. Since the early 2010s, global and regional institutional financial actors and corporations have been involved in the making of a new apparatus for the purpose of governing climate change. Initially centred around a few key financial figures and institutions, discourses are now proliferating on the urgency of intervening at a global level. Since the Great Financial Crisis of 2008, and with the increasing evidence of an impending climate catastrophe, delegitimised elites, threatened in their privilege—yet increasingly aware of the unsustainability of the current system—are attempting to respond to social and environmental demands and claims. The tension in the current juncture, which dialectically opposes an enduring old to a not mature ‘very new’, recalls an organic crisis where the ‘viscous forces of society’ resist the processes of transition and struggle to keep hegemony (Gramsci 1975; see Burgio 2020: 41). Transported back to Bourbon Sicily in the film *The Leopard*, by Luchino Visconti, one hears Tancredi uttering to his uncle, the Prince of Salina, those memorable words: ‘If we want everything to stay the same, everything must change’ (Tomasi di Lampedusa [1957] 1969).

Acknowledging, at last, the urgency to tackle climate change, financial elites seem to swing confusingly between effective, if hesitant, actions, aimed at relieving the contradictions that led to the crisis, and opportunistic – ‘trasformiste’ – co-optations of critical discourse. Signalling the possibility of a historical energy transformation Pearse (2021; see special issue) talks of a large-scale energy transition are triggering conspicuous investments for a more sustainable infrastructure. While global GHG emissions are steadily increasing, there are some signs of a historical inversion of this deadly tendency, if fragile, slow and limited to some industrialised regions (see Chancel and Piketty 2015: 18). The unequal distribution of carbon emissions, while still outrageous, seems to have been improving over the last few years (Semieniuk and Yakovenko 2020: 4; Bruckner et al. 2022).

In order to mobilise the enormous capital necessary to drive the transition, old financial instruments such as bonds are being redesigned and adapted for the new requirements. Born in the Middle Ages as ‘promises of future repayments’ (Goetzmann 2016), they allowed governments to borrow from wealthy citizens and pay interest. Their present form is epitomised by labelled (in particular, ‘green’) bonds, whose market is led by the public sector.¹ Combining the financial promise of vanilla bonds to pay fixed interest, with the promise to only use the proceeds for sustainable projects, green bonds are a key policy instrument to implement the energy transition required to tackle the climate crisis. But if the Italian city-states that pioneered this technology, notably Venice and Genoa, recruited

¹ Each of the first 10 ‘all-time top issuers’ of bonds variously labelled as ‘sustainable’ are from the public sector.

wealthy lenders through increasingly compulsory or forced loans, paradoxically ‘imposing a profit’ on them (Martines 1988: 177; Pezzolo 2007); modern investors seem to be recruited through the potent forces of labelling and branding mobilised by green bonds.

Indeed, drawing on Althusser, we define the burgeoning green finance apparatus in the form of an ideology which has been shaped by discourses, practices and standards originated by the financial markets’ attempts to include environmental and green objectives into its own operations. This green ideology revolves around financial labels and signifiers, which play a dual, entangled, role. On the one hand, they serve as the flexible, malleable ground on which hegemonic articulations take place, enacting or performing rather than describing what they name (Laclau 2014; see also Butler 1997). Federating and temporarily fixating a diversity of meanings and positions ‘around which common affects can crystallize’ (Mouffe 2022: 9.35; emphasis added), the green label, as we will suggest in the following sections, is becoming hegemonic. This means that through a ‘discursive construction with a symbolic and libidinal dimension’ (Mouffe 2022), it is increasingly inscribing and co-opting heterogenous signifiers in an equivalential, hegemonic chain (Laclau and Mouffe 2001). As it becomes representative of the totality of the field, the green label, in turn, loses its differential identity as an increasingly floating signifier (Zizek 1989; Laclau 2014). Through this hegemonic signifier, financiers can identify themselves as ‘green’, a ‘we’ who can take common actions to tackle climate change.

On the other, labels are the names through which financiers are interpellated. Through interpellation, which Althusser defines as the scene where the subject is constituted, we show how financial practitioners become to see themselves and perform as green ideological subjects (2014). This is visible in the way they respond to emerging green finance imaginaries, rituals, and standards that define the green bonds market. Mobilising Althusser’s dramaturgical model for interpellation (Althusser 2014; see also Balibar 2015; Butler 2015). We suggest that bond pricing events² are the setting where these moments of hegemonic articulation and subjectivation take place. They are the site where performative acts of interpellation (Althusser 2014) hail financiers, constituting them as ‘green’. Once identified as green, financiers evaluate green assets differently from brown ones, attaching a distinct green premium (also called ‘the greenium’).

Inserting into wider debates on the financialisation of nature (Sullivan 2013; Bracking 2015) and its increasing spectacularisation (Levidow 2020; Igoe 2021), we add two fundamental points. First, through the concept of hegemony, we add a political dimension to the current proliferation of ‘green’ labels and signifiers and to their scope

² Events whereby a bond is first sold on the market.

in shaping the new current capitalist ‘green’ worldview. As we show, this ideological apparatus is not a fixed and stable domain, rather it configures as a battleground inherently linked to the social and economic reproductive ambition of the dominant ideology and their continual political and financial interests (Althusser 2014). If ‘linguistic conventions’, ‘fictional expectations’ and the related creation of ‘authoritative narratives’ have been deemed central for the ‘market struggle’ (Beckert 2016; Leins 2020), a flat, dispersed, understanding of power – as is now customary – might miss, as a vanishing point, the articulation of hegemonic strategies put forth by the financial ISA. While at the micro level, rituals of pricing might look erratic and self-referential, they often seem to aggregate and produce, like for green bonds, wider structures whose rhetoric points to veritable hegemonic formations (Laclau 2014). Through this analysis, we aim to complicate debates on the performativity of green labels within or outside the economic sphere by stressing the coercive and political dimension of the financial market.

Second, and related to the first point, by focusing on green bonds, we aim to draw attention to the peculiar performativity of acts of interpellation. While Austinian performatives, in their illocutionary or perlocutionary versions, have been widely invoked for their explanatory potential, ‘to supply an alternative to causal frameworks for thinking about effects’ (Butler 2010; see special issue); nevertheless, the ‘self-grounding’ performativity of acts of interpellations (Kockelman 2013: 91) which produces financial subjectivities – and how valuation ultimately coincides with these acts of subjectivation/subjection – has been less explored. We observe this process in the mechanism of green bonds pricing.

This article is organised as follows. First, we set the stage by presenting the recent move by the German government to issue a green bond paired with its vanilla counterpart (called ‘twin’). By showcasing the difference between green and plain vanilla bonds, the German government calls investors to price or evaluate the twins differently. Second, taking stock of the proliferation of both public and private actors, national and supranational, governmental and non-governmental organisations, we describe Sustainable Finance as a self-grounding Ideological State Apparatus (ISA) performatively or recursively defined by the very ideology it materialises. To this end, we outline the contingent, aleatory constitution of the green label as a hegemonic signifier, and how it is embodied in practices and rituals of pricing and auditing. Third, we apply Althusser’s dramaturgy model to green bond pricing and show how a felicitous valuation of a green bond primarily depends on acts of interpellation of this ISA. Fourth, we examine a green bond boot camp training programme. We show how a role play exercise that portrays the drama of pricing events stages a story of value creation where fictional personae – ‘green’

investors, bond issuers, and other practitioners – are constituted, and in turn recruited to materialise the greenium (Muniesa et al. 2017). The charged semiotic space of this rehearsal produces complex subjectivities, with participants motivated both by expertise, financial profit and from desires to have a positive impact on the world. We underline how these ethical struggles point to complex individual and social processes.

Hey, you there – look at these German twins!

Although the German Federal Government was not the first sovereign issuer to tap into the green bond market, in September 2020 it made a significant move by issuing its first green sovereign bond. By doing so, the German Treasury developed a novel financial comparison in the green bond market aimed at establishing a precedent for sustainable investments. Leveraging its role as a public sector issuer of risk-free securities in the eurozone, Germany announced its intention to create ‘added value for the sustainable finance market in Europe’ and serve as a reference ‘green’ issuer for the Eurozone (BMF 2020).

In order to fully grasp the intentions of the German government, an understanding of bond yield curves is key. In their simplest application, yield curves plot the interest rate of various bonds with different maturities. If we assume, for example, that a bond which expires in 10 years is issued and priced by investors to give a yield or interest rate of 2%, then the point (10 years, 2%) – a pricing event – will be plotted on a graph. For n different pricing events, the graph will contain n points (maturity, yield). Through mathematical tools for curve-fitting, this historical series of bond pricing events will be used to estimate a smooth curve which best approximates the yield vs maturity datapoints.³ Since investors price differently bonds issued by different institutions and for different maturities, yield curves are thought to provide a simple representation of the present and future financial performance of an institution. Indeed, they are often considered to be a core indicator for asset pricing and valuation: the baseline against which new bond issuances are priced.

For example, a financial analyst can compare the yield curves of two issuers with different credit ratings and analyse how differently the risk of default is priced. More importantly, since it is a representation of how the remuneration of existing bonds varies as a function of their duration, the yield curve of reference issuers like the US treasury or the German government is often considered to indicate the future trend of short-term interest rates – whether they are expected to rise or fall –, and with them, inflation and business cycles. A steeply upward-sloping yield curve, where the yield of bonds with

³ Note that the curve is not fixed but will dynamically adapt at every pricing event.

longer maturity exceeds that of those with shorter maturity, would imply that future interest rates are expected to increase with respect to current ones. In this sense, ‘the curve offers a way to understand the market’s collective assessment of the future (i.e. whether the economy is weak or strong)’ (Zaloom 2009: 247; see also Christophers 2017).

Thus, in order to ‘establish a green yield curve’ and create added value for the market of sustainable bonds in the EU, the German treasury decided to issue green bonds at the same time as a twin conventional vanilla bonds with the same financial characteristics but whose proceeds are not linked to sustainable projects. In order to ensure the same level of liquidity⁴ for the two securities, investors are always allowed to exchange their green bonds for the vanilla twin (BMF 2020). Finally, and even more crucially, ‘switch trades’ between twins are performed on the secondary market by the Federal Government aiming at ‘reflecting the higher value of green federal securities compared with their conventional twins’.

Institutions that issue both green and vanilla bonds can be characterised by two distinct yield curves, the green and the conventional one. The difference between the two is the premium investors pay for the green ones. This is often referred to as the ‘greenium’ (Tripathy 2017; Harrison et al. 2020). Why should bonds with similar financial characteristics be priced differently? The answer given by financial models consists in pointing to climate risks, as climate change is thought to imply a greater devaluation of brown assets than green ones (see for example Agliardi and Agliardi 2019). This risk would be priced by investors, leading to a positive difference in yields between brown and green assets. The measure of this risk differential raises the greenium. But the issue is controverted, especially in the case of the same institution issuing both green and vanilla bonds. Why should the risk of default of the same institution be priced differently when issuing green and vanilla bonds, which both share identical financial characteristics and are guaranteed by the same institution?

In the next section, we will paint a more complex picture, pointing to the complicated underlying practices of valuation which mainly rely on mechanisms of subjectification. In particular, we speculate that the latest bond issuances from the German Federal Government are acts of interpellation of an Ideological State Apparatus (ISA) (Althusser 2014).

The emergence of the Green ISA and the green bonds market

In this section we outline the contours of the emergence of this Green ISA and describe the discursive shifts in ideas of sustainability

⁴ Note that the curve is not fixed but will dynamically adapt at every pricing event.

that are materialised in its financial signifiers and labels. Although we will be forced to linearise a story of successive translations – the diachronic articulation of multiple heterogenous demands into the green bond label – each moment of this ‘outer’ sequence is entangled with ‘internal’ synchronic acts of subjectivation or interpellation. But these acts of subjectivation, in turn, depend on that diachronic articulation. As in the lithograph of MC Escher, *Drawing hands*, where each hand paradoxically provokes the existence of the other (see Hofstadter 1979: 685), a “strange loop” will bring us unexpectedly right back where we started’ (Hofstadter 1979: 10).

First phase, mid 2000s – Patient green development

Characterised by the action of highly ranked development banks (the EIB and the World Bank), responding to requests mainly from environmentally-minded institutional investors (pension funds, an ‘involuntary wall of money’), the first phase of the green bond market can be located in the second half of the 2000s. In July 2007, the European Investment Bank (EIB), ‘the lending arm’ of the European Union, issued its first Climate Awareness Bond, within the 2007 ‘EU Action Plan for energy policy’ (EIB 2007). EIB bonds were followed in 2008 by an issuance of the World Bank, organised to meet the request of Swedish pension funds. Other development banks such as the International Finance Corporation (IFC) soon followed. Crucially, at the down of the market, green bonds were marketed especially for pension funds.

Indeed, starting in 2001, following a legislative reform, the five largest state-controlled Swedish pension funds, soon followed by other countries, were forced by law to include (and, importantly, report on) ‘environment and ethics’ in their investment policies (Richardson 2013). Clumsily accommodating instances of various (non-financial) NGOs, the Church, and Trade Unions (Bengtsson 2008), the bill prescribed: ‘a high rate of return in the long term in relation to the investment risk’ but ‘required to take environmental and ethical considerations into account in their investment activities *without deviating* from the overall objective of a high rate of return’ (Swedish Government Official Reports 2009; emphasis added). It is no wonder that the bill was followed by various parliamentary motions calling for more specific guidelines on how exactly pension fund managers were supposed to fulfil the task (Swedish Government 2009: 57). Indeed, explicitly excluding any attempt of mediation, the bill seemed to merely juxtapose the ethical agenda variously advocated by the wider movement for responsible investment⁵ in Scandinavian countries, with

⁵ Mainly focused on exclusions of weapons and tobacco as well as compliance to well-established international conventions (Bengtsson 2008).

the traditional ‘fiduciary duty’⁶ of pension funds to maximise their return. And yet, the catch-22 was successfully solved or dissolved by the few financial institutions which could ensure green infrastructure development alongside a high financial ranking and long-term profitability (such as the EIB and the World Bank).

Interestingly, the contradictory (at that time), and opaque at best, Swedish pension reform is still reflected by the curious structure (if one thinks of it) of green bonds as financial instruments. Formally designed as ‘plain vanilla’ bonds, the most traditional fixed income instruments, green bonds not only merely *juxtapose* financial characteristics with environmental objectives without establishing any dependency between financial return and the achievement of the ‘sustainable’ targets, but they also often explicitly exclude any legal obligation for the green commitments⁷.

Where regulators and financial engineers struggled, the rhetoric of the *labelling* of the bond proved indeed successful, providing the missing common ground between safe, constant, long-term financial returns, as demanded by pension funds, and ideas of socially responsible investing emergent in Nordic Countries in the 1990s (Bengtsson 2008). Through the label, a relation of mere contiguity ‘shade[s] into analogy, transforming contingent articulation in *essential* belonging’.

As a result, during this first phase, the green bond label came to signify the promise of a safe, transparent, profitable, and long-term investment for the development of green infrastructure – as indeed offered by Development Financial Institutions (DFIs). Ultimately, this was rooted in ideas of ‘sustainability’ as first institutionalised by the Brundtland Commission, calling for a development without impairment of future generations (WCED 1987; see Brightman and Lewis 2017). In this discourse, the condition of possibility of an ‘added value of sustainability’ which investors would pay, the greenium, is explicitly negated.

⁶ ‘Fiduciary duties arise where the exercise of some discretionary power in the interests of another person gives rise to a relationship of trust. The fiduciary duties of loyalty and prudence require the trustee to manage assets wisely only on behalf the beneficiaries’ (Richardson 2013).

⁷ Whether the green commitments of the issuer are legally binding is still object of discussion. The Italian utility ENEL, for example, in its legally binding prospectus (the contract between issuer and investor) states: ‘In addition, although ENEL and ENEL N.V. may agree at the time of issue of any Green Bonds to certain reporting and use of proceeds (including in the case of certain divestments described under ‘Use of Proceeds’) it would not be an event of default under the Notes if ENEL or ENEL N.V. were to fail to comply with such obligations’ (ENEL 2020).

Second phase, 2010s – Black swans turn green

In the aftermath of the Great Financial Crisis (GFC), the near collapse of the global financial system was only avoided by unprecedented (and unpopular) public bailouts. As trillions of dollars of stranded assets were rescued in extremis through public money, concerns for the stability (and sustainability-qua-resilience) of the financial system gained momentum, leading to stricter regulations on credit risk, and a stronger ‘disciplinaryisation’ of financial institutions through financial disclosures (Baud and Chiapello 2017). Furthermore, the long debate on Climate Change seemed to eventually come to a conclusion, ‘the wheels starting to come off the denialist bus’ (Mann and Wainwright 2019). As a result, discourses in the green bonds market began to include ideas of ‘security’ and ‘resilience’.

Indeed, issues of ‘security’ became central to the actions of Mark Carney, an influential central banker (Bank of Canada and Bank of England), chairman of the powerful Financial Stability Board (FSB), educated at Goldman Sachs, who almost single-handedly elaborated the missing link between financial stability risks and climate change. In a ground-breaking speech at Lloyds, entitled ‘The Tragedy of Horizon’ (2015), this charismatic figure, a veritable *Prince of Sustainable Finance*, was able to provide the (re-)articulation of forces needed in ‘catastrophic times’ (see Gramsci 1975). ‘Catastrophe’ here, as well as being a quotation from the Sardinian political thinker, is a keyword in Carney’s speech, not by chance delivered for an audience of insurers, soon before the COP21 in Paris. Articulating climate anxiety with concerns for the stability of the financial system, Carney developed a vernacular (see Callison 2015; Tripathy 2017) which established the ‘analogy’ between climate and finance systemic risk (see Aglietta and Espagne 2016). Leveraging on his position of supervisor and regulator (as governor of BoE) and influential policy maker (as chair of FSB), Carney provided an audience that was all too reminiscent of the GFC with the imaginary of what would later be called a Green Swan (Taleb 2007; BIS 2020), a catastrophic event in the financial market causally linked to the direct effects of climate change, or, indirectly, to the ‘disorderly’ transition it might imply⁸.

But Carney’s action was not limited to speeches addressed to communities of practitioners. His leading role in a plethora of

⁸ According to Carney, transition risks are ‘the financial risks which could result from the process of adjustment towards a lower-carbon economy. Changes in policy, technology and physical risks could prompt a reassessment of the value of a large range of assets as costs and opportunities become apparent’ (2015: 4). It is perhaps worth noting that the very concept of climate-related financial risks shifted somewhat in recent years. Due to extreme weather events, physical risks in the near future are now widely acknowledged. Yet, still in 2015, Carney’s famous speech downplayed the importance of short-term physical risk imputable to climate change and could still point (already in the title) to a distant ‘Tragedy of the horizon’ (2015).

interlinked international initiatives profoundly reshaped the financial system, giving the ISA its present form. Indeed, around the Paris Agreement, and following the UNEP *Inquiry into a Sustainable Financial System* (2016), the mid-2010s saw an explosion of ‘green finance study groups’ (e.g. the G20 group in 2015) which prepared the ground for the Task force for Climate-related Financial Disclosure (TCFD, established by Carney as a spin-off of the FSB in 2015), and later the Network for the Greening of the Financial System (NGFS 2017 – again Carney is among the three founding members). Slowly but steadily, the rather generic references in *The Tragedy of the Horizon* (2015) to climate-related financial risk disclosure and scenario-based climate stress tests, were eventually codified and operationalised (‘materialised’ in Althusser’s parlance) in these global institutions, through established rituals of auditing and pricing.

Quoting Gaston Bachelard, a report by the Bank for International Settlements⁹ (BIS) later described Carney’s achievement as ‘an epistemological break’ (BIS 2020). Indeed, by foreshadowing a near future of repressive policy making and supervision, long-term climate risks were actualized through the notion of ‘transition risks’ – risks resulting from the adjustment to a low-carbon economy – positing what we call the central theorem of green finance. According to this theorem, the reassessment of assets due to climate change is delegated to the market. ‘Green’ assets will be less exposed to de-valuation than brown ones. But such re-evaluation can only occur if policy makers put forth adequate environmental policies, and if transparency of the environmental impact is guaranteed.

And yet, as the apocalyptic report of the BIS proves, it would be misleading to reduce Carney’s operation to one of financial risk engineering, where allegedly green assets would be included in a portfolio to hedge climate risks associated with brown ones. Not only would this miss his point that there is no ‘individual’ hedging against such systemic risks – something financiers knew all too well after 2008. But, and perhaps more crucially, Carney also succeeded because he translated the wider anxiety for climate change into a financially actionable (or profitable) discourse. Conflating apocalyptic imaginaries of the climate catastrophe with those, still vivid in the memory, of the 2008 financial meltdown, Carney exposed financial elites to the radical contingency of our age. Equivocating Greta Thunberg’s incessantly ticking carbon clock, yet praising how she ‘won’t settle for financial institutions who can’t tell whether their investments and loans are on the right or the wrong side of climate history’ (Carney 2021), Carney operationalised through carbon scenarios a veritable CO₂-fetishistic time-machine. The fetishist invocation of CO₂, as Swyngedouw explains mobilising Laclau’s and Laclan’s vocabulary, ‘simultaneously

⁹ Also known as ‘the bank of central banks’, the BIS is a key player in the global financial market.

expresses our deepest fears and the desire for change', it acts as the quilting point ('point de capiton') through which a hegemonic, equivalential chain is emerging (Swyngedouw 2010: 220). And yet, partially contradicting Swyngedouw's diagnosis, Carney did not simply continue to preach an 'apocalypse for ever' (see 2010). By evoking gloomy scenarios of disorderly transition – in a millennial move – Carney also pointed to that only selectable scenario of an orderly (that is: profitable) redemption offered by this renewed financial order.

Thus, in the mid-2010s, climate change and financial value were articulated through ideas of security and resilience, organised around the pervasive CO2 fetishism of those years. In the process, sustainability and the green bond label simultaneously emerged to confront the spectre of the Apocalypse, to 'project a host of different codes on a single Master Signifier' (Jameson 1998: 82, echoing Laclau and Mouffe) which symbolically incarnates the 'enemy', providing this increasingly dominant discourse of its 'constitutive outside', to which all negativity can be attributed (Laclau 2014).

In January 2014, the Green Bond Principles (GBP) were established by a consortium of bond underwriting divisions at investment banks, including Bank of America Merrill Lynch, Citi, and BNP Paribas (EIB n.d.). After establishing the Green Bond Principles, the banks then searched for a third organization to be a secretariat for the principles, and coordinate communication and future work among the banks. They settled on the International Capital Markets Association (ICMA), an international association based in Switzerland, focused on promoting robust debt capital markets. With guidelines on how to issue a green bond now available to prospective green bond issuers, 2014 and 2015 continued the upward momentum in the green bond market. The year 2014 ended with US\$36.6 billion issued by 73 institutions, bringing the market to a total of US\$53.2 billion outstanding green bonds (CBI 2015). In 2016, supported by the People's Bank of China's green bond guidelines, 39% of 2016's green bonds were issued by Chinese State-Owned Enterprises (SOEs), totalling US\$36.2 billion. By the end of 2015, the green bond market had reached US\$100 billion (CBI 2015).

At a regional level, policymakers responded incorporating most of Carney's instances (non-financial disclosure, climate stress tests by Central Banks) in their regulations, empowering the global ISA with the local 'repressive' force – to use Althusserian language – it was still lacking. Crucially then, in this phase the green label started to also signify broad compliance to these practices, indexing the emerging power of the ISA, by then also increasingly repressive in terms of compulsory disclosures and requirements for green capital reserves. Recalling Carney's comment on 'climate history' reported above, it was then increasingly clear who was actually writing that history. Consequently, the market's growth kept accelerating, surpassing US\$1

trillion in 2020. In this phase, talks of a greenium gain momentum, and quantitative analysis begin to point to its emergence (see for example (Zerbib 2016)).

Green bonds on stage

In the preceding sections, we presented how the green bond label has increasingly enchainned different positions in sustainable finance and beyond, allowing its value, the greenium, to hesitantly emerge. The need of pension funds for accountable, patient, green capital blurred into imperatives of ‘security’ and ‘resilience’, which are both terms that floated ambiguously between discourses of financial and climate crisis, and eventually satisfied the universal appetite for fee-based return of giant asset managers. In so doing, we mentioned a few, strongly connected institutions around which rituals of green valuation emerged: non-profit institutions like ICMA and CBI, Development Financial Institutions, national and supranational governments, and global surveillance organizations like the TCFD, the NGFS, the BIS. Thus, this is also the story of the emergence of an ISA, the site of a struggle where dominant financial elites hasten to rescue a critical situation which threatens to compromise the status-quo. The emergence of this green financial hegemony points to a new form of global sovereignty (Hardt and Negri 2019), one which has been tentatively described as a Climate Leviathan ‘committed to the consolidation of capitalism via the organization of a form of planetary sovereignty that can overcome the collective action problem’ (Mann 2018). As we will make clear in the last section, this is also a story of exclusions. But for the moment we turn to what was only mentioned previously – that is the fact that this process produced (and it has been produced by) green financial subjectivities.

Indeed, in this section we propose that the story of the green bond label, and the emergence of its financial value, the greenium, boots up through the reiteration and accumulation of bond pricing events. These are performative actions, which, building on Althusser, we call acts of interpellation.

The main hypothesis we have here is that this Green Ideological Apparatus works as a subjectivation device which informs practices of valuation and pricing of sustainable bonds. Indeed, Althusserian ISAs produce a ‘subjectivity effect’ (Montag 2013: 134). They structure ‘modes of perception, affect, thought, desire, fear’ (Ortner 2005: 31). These frameworks (and in general (post-)structuralist ones) share the assumption that ‘the subject is determined by ‘something’ it internalizes but which is not under its own control’ (Sato 2022: ch 1). Rather than a subject who is fully self-transparent and self-determined (Reckwitz 2012: 12), understood as ‘a centre of initiatives, author of and responsible for its actions’ (Althusser 2014: 269), the subject is

formed and bent through a struggle with elements that are external to it and constitute ‘an objective field to contradictions’ (Althusser 2014: 88) which subjectivate in successive, shifting, contradictory ways, engendering ‘the “contradictory unity” each subject must negotiate’ (Bargu 2015). Drawing from Althusser, and in conversation with Ernesto Laclau and Slavoj Žižek, Judith Butler underscores the crucial role of practices of identification through interpellation for the constitution of a subject (1993). In her account, through signifiers (Butler gives ‘women’, ‘democracy’, ‘freedom’ as examples) the subject is called or interpellated. Designating various subject positions, these signifiers constitute the fabric of the ideological field.

Focusing on green finance, we suggest that environmental and climate labels and other financial green signifiers for financial products play a similar role in what we call a dual process of valuation-cum-subjectivation, whereby financiers identify themselves as ‘green’ and thus value differently green and brown assets. The performativity of these signifiers is fundamental for our argument. In fact, these signifiers are not descriptive. As famously shown by Judith Butler

they do not represent pre-given constituencies [...] Paradoxically, the political efficacy of the signifier does not consist in its representational capacity; the term neither represents nor expresses some already existing subjects or their interests. The signifier’s efficacy is confirmed by its capacity to structure and constitute the political field, to create new subject-positions and new interests. (Butler 1993: 210).

Since they do not describe an established reality but retroactively perform it, these signifiers serve to ‘gather together into a unity or identity elements that previously coexisted without any such relation’ (Butler 1993: 210). When a particular signifier tends to take up a dominant signification – as we speculate it is happening for the green labels – it strives to be hegemonic. Building on Žižek’s theory of nomination as a performative and not a descriptive operation, Laclau remarks: ‘the essentially performative character of naming is the precondition for all hegemony’ (Laclau’s preface to Žižek 1989, 2019: 104; see also Butler 1993). On the one hand, green labels are the site of re-articulation of hegemonic strategies: they do not describe but ‘retro-perform’ (Appadurai 2016) a certain reality. On the other, they possibility of identification. Encoding and enacting ever-new interests, green labels are the ‘names’ by which investors are called.

Thus, we suggest that labels produce different subject positions, through that ‘theatrical machine’ (Balibar 2015; Butler 2015) Althusser baptized interpellation. Interpellations, in fact, are kinds of ‘performatives’ – signifying actions and practices ‘which constitute that to which they refer’ (Hollywood 2002: 113). Confined in the original elaboration by John Austin to linguistic utterances which,

‘masqueraded’ as mere statements of fact, do what they say (Austin 1962), they have since been expanded to refer in general to a ritual-like action which ‘alters the very condition of felicity that they appeared to presuppose’ (Appadurai 2016: 76).

Consider, for example, Althusser’s paradigmatic *mise en scène* of how religious subjects are constituted through interpellation. Here, Althusser builds ‘a little theoretical theatre’ where a personified Christian religious ideology ‘collects into a fictional discourse what it ‘says’ not only in its two Testaments, its Theologians, Sermons, but also in its practices, its rituals, its ceremonies and its sacraments’ (2014: 194). It speaks to and calls a human individual: ‘It says: This is who you are; you are Peter!’ (2014: 194). In the moment when this fictional God names Peter, it brings its subject into being. Just as Austinian performatives, then, the success of this interpellation is bound to procedures and rituals – ‘if everything does happen in this way (in the practices of the well-known rituals of baptism, confirmation, communion, confession and extreme unction, etc. ...)’ (2014: 195). Only if these felicity conditions are met does religious ideology transform individuals into subjects (Butler 1997; Althusser 2014).

Just as in Althusser’s account, an identity is constituted when an individual is addressed – interpellated – as a member of a group, so investors are ‘hailed’ and moulded by pricings events like the recent ones of the German treasury. Interpellated as ‘green’, their valuation of green bonds deviates from the conventional one, engendering the price differential which has become known as the *greenium*. Through the *répétition* (rehearsal) of such events, newborn ‘green’ financiers are ensnared in a loop through which they increasingly differentiate themselves from ‘vanilla’ ones. Drawing mainly on the work of Judith Butler, we propose that these acts of interpellation constitute chains of citations. New bond issues, we argue, cite each other, allowing the *greenium* to slowly come to matter as the limit of this series of citations. As a result, ‘green’ yield curves diverge from the normal ones. Crucially, then, the valuation or pricing of green bonds seems to rest fundamentally on the performativity of processes of social subjectivation – which ascribes roles across binary categories (green/vanilla, male/female etc.) – that propagate through an essentially citational mechanism. Precariously inscribing the addressee in a specific subject position, ‘name-calling’, is a performative in the specific sense that it exercises an interpellative function. This stages on the market a performance, where the story of creation of value conflates with the rise of fictional personae, where narratives about the *greenium* constitute green investors (Muniesa et al. 2017: 87).

In betwixt, in between?

The latest twin bonds issuance by the German Treasury aptly illustrates this process of subjectivation-cum-valuation. As Germany entered the Green Bond market with its twins in 2020, most commentators reacted enthusiastically to the perspective of getting a ‘reliable measure’ of the greenium. Indeed, as conventional financial literature on the topic proves (see Agliardi and Agliardi 2019 for a review), the comparison between a ‘green’ and a ‘vanilla’ curve had been deemed, until then, a delicate and ambiguous matter. The historical absence of simultaneous issues of green and vanilla bonds would render estimations difficult, dependent on diverse models. Furthermore, the amount issued, normally very different between green and vanilla bonds, would lead to different pricing, as this is thought to be related to the ease with which bonds can be traded on the market (its liquidity). Within these stories, the complex financial design of the twins aimed at exactly this: measuring the greenium and, in the process, sustaining it on the market through direct trade.

Althusser’s dramaturgical model of interpellation, as it was recently re-proposed by Etienne Balibar (2015), opens an avenue to explore the details of the last twin bond issuance put in place by the German Treasury. Theatre, for Althusser, is both a ‘theoretical dispositif or machine whose purpose is to resolve theoretical problems and identify the object of a theory [i.e: ideology]’ (2015: 2) and a political practice which opens up the possibility of a critique of the dominant bourgeois ideology, if not a critique of ideology tout-court. On one hand, it constitutes the prototypical template for interpellations. Be it a street, a supermarket, or a pricing event, interpellations presuppose a staged situation, they happen on a scene. On the other, and especially in the case of Brecht’s materialist theatre, through distancing effects which ‘disrupt the latent structure of the play’ (Balibar 2015), theatre might offer a place in between where ‘I become double to myself, [...] I can ask: what propels me to identify in this way and what grounds do I have for resisting that identification?’ (Butler 2015: 27). If not a complete exit ‘out of ideology’ – which Althusser excludes: ‘ideology is eternal’ – political theatre offers the possibility to ‘shift from one identification, one interpellation, to another’ (Balibar 2015: 13).

What we propose, then, is to imitate here at least the first part of Althusser’s move – politics as theatre, theatre as politics – and study pricing events ‘as theatre’. In this sense, setting on stage a sequence of (partly, as we will discuss shortly) contradictory scenes or acts, the twin bond issue performs a sort of Brechtian *Verfremdungseffekt* (*V-effect*) which de-familiarises both the vanilla and the green label, and their crystallised ideologies. It prompts a situation where investors can distance themselves from their own identifications. It builds a space in-between, a gap, where investors can interrogate themselves on why they identify themselves in a certain way, thus opening up the

possibility to be successfully hailed into green investors. By duplicating (or reiterating the usual ‘representation’, a theatrical dispositif introduces a ‘play’ in the mechanism (Balibar 2015, echoing Butler), which allows the investor/spectator to reconsider his/her position. In short, the twin issue builds a liminal space which displaces or dislocates investors, destabilising their identities.

Indeed, multiple ideologies never stop recruiting individuals – as Althusser tells us. Their ‘play is superposed, criss-crossed, contradicts itself on the same subject’ (2014: 193). As Banu Bargu suggests, these ‘interpellating encounters’ subjectivate in successive, shifting, contradictory ways, engendering ‘a layered subjectivity’ – the ‘contradictory unity’ each subject must negotiate (Bargu 2015). Yet, Althusser also comments that ISA interpellations are felicitous ‘nine times out of ten’. And even if we wanted to concede more cautious statistics, for example allowing for the novelty and ‘fragility’ (Althusser 2014) of the new emerging green ISA, why then are investors responding en masse to the call, and why is the greenium emerging and stabilising itself on high values?

Our tentative sketch of an answer will draw on two arguments. First, we will underscore the ultimately repressive or ‘disciplinary’ (see Butler 1997: chap 4, 2015; Bargu 2019) quality of this green interpellation. Second, we will show how this theatrical machinery not only de-familiarises, at least in part, the old rituals of valuation (ideology). In a remarkable inversion of the Brechtian dispositif, it works, at the same time, to make the new ones ‘familiar’, and thus further articulate the equivalence chain crystallised by the green bond label.

The tension between a repressive (based on violence) and an ideological component (based on consent) of interpellations, has been pointed out by Althusser himself in a much-quoted excerpt of the ISA essay:

Hailing as an everyday practice governed by a precise ritual takes spectacular form in the police practice of hailing: ‘Hey, you there’ (It functions in very similar forms in interpellating or summoning at school.) Police hailing, however, unlike other kinds of hailing, is *repressive*: ‘Your papers!’ ‘Papers’ means above all identity papers [...]. Identity, concentrated in first and last names, and so on, makes it possible to identify the subject (presumed in police hailing to be more or less suspect; initially presumed, that is, to be a ‘bad sort’) (Althusser 2014: 190; emphasis added).

Indeed, Judith Butler comments that what (normally) makes the individual prone to answer the call, is an ‘anticipatory guilt’, ‘a passionate expectation of the law’ (Butler 2015). As hinted in the German Treasury’s Investor Presentation, specifically in the section ‘Selection of key legislation, initiatives and instruments’, it is easy to

trace back the ‘accusative nature’ (Bargu 2015) of these interpellations to the increasingly compulsory nature of non-financial disclosure, the ‘green papers’ each investor is compelled to produce. After all, the EU directive on Sustainability-related disclosure in the financial service sector (SFDR) is rolling out as we write, making it clear at last which investor is on the right or the wrong side of climate history (Carney 2021).

But this spectacular *mise en scène* seems to exceed an explanation merely based on the ultimately disciplinary call of the German Agency. Still confused between the perhaps limited but real concessions of a delegitimised elite and their spectacular ‘*trasformismo*’, the concerned observer will not fail to notice a fundamental difference between the emancipatory theatrical dispositives Althusser (and Balibar) discuss in the quest of a revolutionary politic, and the device so skilfully arranged by the German Treasury. Rather than alienating effects of ‘overdistanciantion’ (Bargu 2015), akin to the Brechtian V-effect discussed by Althusser and his commenters, it seems that the German Agency mobilises conventional financial signifiers to familiarize the green label, achieving yet another moment in the articulation of the green label.

Among these financial signifiers, ‘liquidity’ figures most prominently. In this context, liquidity is best understood as a floating signifier (see Ortiz 2020), an affective sign which interpellates us, but whose exact meaning remains conceptually elusive (Konings 2015). For our interlocutors involved in the design of labelled bonds and Impact Funds, ‘the fetish of liquidity’ (Keynes quoted in Ortiz 2020) is first and foremost an obsession. With some insistence, the Investors Presentation explains how liquidity is ‘ensured via (a) outright purchase or sale of bonds, (b) repurchase agreements and security lending, (c) switch transactions between twins’. Green bond, just like their twins, are ‘Euro cash surrogate’ (BMF 2020; see also Gabor and Vestergaard 2016). Furthermore, in a ‘de-risking’ strategy of sort (Gabor 2021), the German Treasury guarantees that the performance of the green twin is at least equal to the conventional one. Among the other features the green twin shares with the conventional one, is also its ability to back the same derivatives contracts.

‘LIQUIDITY’, ‘CASH SURROGATE’, ‘COLLATERAL’, ‘DERIVATIVES’, ‘RISK-NEUTRAL’ – this is all discussed ‘in a single breath’ together with the rest of the document, which further covers: the role of Germany in achieving climate targets; its connection with what we have been calling here the green ISA (NGFS, etc.); some detailed examples of green expenditure (railways, bicycle lanes, biodiversity, energy development in emerging countries, mobile digital printing, organic farming, etc.). The overall impression, then, is that green and conventional bonds are indeed twins, perhaps homozygous

twins, as they share much of their financial DNA. Quite surprisingly, though, investors are indeed paying more for green securities.

Citations

Within this framework, corporate issuers pricing green bonds will index the pricing of institutional issuers. In this sense, pricing events are inter-linked semiotic events which ‘come to share substance even as they are marked by difference’ and constitute a chain of citations. Their performativity works through the tension between two semiotic components. On the one hand, as ‘indexes’ in the Peircian sense, they point to a reference through the time-space contiguity, while maintaining an irreducible gap with it. On the other, establishing relationships of similarity with each other, pricing events are also ‘icons’. Thus, pricing events are related to green labels by a token-type relationship, they are instances (tokens) of a certain label identity (type) sustained through standards and certifications (Nakassis 2012).

As aggregation and sedimentation of chains of citations, green yield curves seem to embody the ‘immaterial qualities’ of labels: ‘imaginaries, meanings, and forms of personhood that adhere to the brand and that are invocable by its tokens’ (Nakassis 2012). Provoking a certain macroeconomic reality (Christophers 2017), ‘formed and formative’ (Butler 1997a), they are the ‘fixed point’ around which subjectivities are produced.

A green bond boot camp

As we have presented in this article, pricing events of green bonds are acts of interpellation performed through green labels. The German Treasury, the European Investment Bank, CBI or ICMA, are strong organizational voices through which Green Finance speaks. Through this propaganda, like Althusserian *personae*, green financiers are recruited and indoctrinated to the truth of climate change. In response to this growth, discussions around green bond pricing and the framing of green bonds as an asset now change the personhood of practitioners in the sector. This parallels Moor and Lury’s finding that the marketing of prices impacts identity (Moor and Lury 2011, 2018).

In May 2018, a climate finance NGO held a ‘Green Bond Boot Camp’ training program in New York City. This was the first time that the nonprofit with a remit of both analysing and promoted the growth of the green bond market – bonds whose proceeds are earmarked for green projects – since 2009, attempted to create and run a training program. The boot camp took place on the top floor of an NYC investment bank’s offices. The floor overlooked a view of Central Park past a newly constructed ‘toothpick skyscraper’, a glaring sign of the

effects of financial value on Manhattan. The then head of the NGO's green bond certification program ran the training. Staff had arrived in New York City from Brazil, Australia and the UK. They were a mix of policy analysts and communications and event organisers.

The inaugural Green Bond Boot Camp class was a mix of financial professionals, sustainability practitioners, all with varying degrees of experience working in or around the green bond market. The participants in the training session worked on sustainability or in the green bond market at a number of scales. One was a manager in the World Wildlife Fund's sustainable finance program while another was a community solar developer. The two-day training program revolved around going through a PowerPoint presentation, which included multiple guest lecturers presenting on their work in the green bond market, such as a lead underwriter at JP Morgan and the treasurer for New York City's Metropolitan Transit Authority. The boot camp focused on having practitioners and people already active in putting green bonds together to share their experiences. Through presenting on their experiences working on and driving the green bond market, these practitioners, who had been instrumental in beginning the green bond market, both identified themselves as green bond experts and recruited new green bond experts.

The presentation began with a general green bonds and market overview before transitioning to discussions on market dynamics, information and pricing. Throughout these presentations and discussions, practitioners identified as green bond experts shared their stories working on the particular issues discussed in the PowerPoint presentations. On the last day of the boot camp, there was an interactive exercise that would both wake up participants after long sessions of PowerPoints and also highlight the negotiations that go into issuing a green bond. In this game, participants took on different roles of market actors, and the goal was to have a successful green bond issuance. Trainees were divided up into four teams: green bond issuers, underwriters, verifiers, and investors. The first page of the exercise begins with a prompt that focused on time pressure:

The email below is waiting for the Issuer Team on a Monday morning...
'The green light has just been given by the CFO !! The work you have been doing on learning about green bonds is about to pay off... The objective is to work towards issuance of a green labelled (and Certified) bond with financial close just on six weeks from now... 42 calendar days. Can we do it ???'.

Through doing this exercise, participants highlighted the feeling of time pressure in putting the bond together and also the issues with balancing contrasting expectations between issuer, underwriter, and investors. Participants mentioned that the training program supported

them in ‘meeting people from all across the investment universe’. Another participant described the exercise as ‘a really great experience, you get to role play, try different roles that you might not you understand a lot more the different perspective of other people in the green bond space...’ He described the exercise as being effective at communicating ‘the speed, the processes and the challenges of these roles.’ This final exercise of the Green Bond Boot Camp both confirmed for participants what their role was or could be in the green bond market as well as allow them to identify with the motivations and roles of other organisations and people.

Since 2018, green bond training programs, such as the boot camp described, have proliferated from the International Capital Markets Association’s *Introduction to Green, Social and Sustainability (GSS) Bonds – Online self-study* to the Chartered Financial Analyst ESG certification which includes a briefing on green bonds (ICMA 2021). Similarly, the World Wildlife Fund created a sustainable finance masterclass in 2021. The World Sustainable Finance Association (WSFA) runs a Certified Sustainable Financial Analyst training course as well (Sustainable Finance Institute 2021). The environmental and climate knowledge transferred by one-week training courses and executive education in sustainability that many sustainable finance practitioners rely on is insufficient, according to many practitioners, to communicate the scientific knowledge that the sustainable finance community purports to translate into the language and workings of the financial industry. This concern is underscored by Kim Schumacher in a thought leadership piece in *Responsible Investor* on the risk of ‘competence greenwashing’ (Schumacher 2020).

Training programs such as this boot camp represent an expression of the green financial machine which produces and releases green labels, and which in turn exerts a potential control over contemporary life, including financial professionals working in this space. With the financial products they make and promote, they can grow and expand on the basis of future projection, speculation, and critique. The career trajectory they undertake in green finance offers them the possibility to be both controllers and influencers of a new green finance apparatus which embraces a new moral turn in finance (see Dal Maso et al. 2022). In this sense, the calling and naming of practitioners as sustainable finance experts through training programs harkens back to our earlier discussion of Althusser’s interpellation. At different stages in their careers, they are exposed to an apparatus which interpellates them into a privileged and powerful cognitive workforce.

The financial subjectivities trainings in sustainable finance generate contain mixed and contradictory feelings that do not simply hold to a fixed ontology of the neoliberal investor (competitive *homo economicus*). On one hand, the training and the financial knowledge

they acquire through this practice is directed to an ‘imaginary of smartness’(Ortiz 2014, 2021; Ortiz and Muniesa 2018; see also Dal Maso 2020; Tripathy 2022a) that calls for conversion into money – either in the form of high salary or the margins from successful financial deals. On the other, their drive to change finance as usual into its brand green features, makes them open to a compromise that is willing to give up sole focus on a profit motive. Crucially, the means of finance and of ultimate profits, remains both ends and tools, as making an impact and doing good is only reachable and conceivable through financial means (Tripathy 2022b). This anxiety surrounding sustainable and climate finance expertise reflects a key tension both in the career of sustainable finance practitioners and in processes of assetization around financial instruments such as green bonds. Their work entails interpreting climate and environmental degradation scenarios and bringing this interpretation into financial markets in a format that will ideally influence investment flow away from worsening these negative impacts (Bracking 2015, 2019). This negotiation is ongoing, and practitioners must grapple with anxieties about the future and balancing their work and life in the present.

We suggest that effectively, green bond and green finance training more broadly puts on stage financial practitioners as ‘theatrical’ *personae*. Representing how to become ‘good finance practitioners’, this performance structures a space (defines a plot) where these subjects are supposed to be interpellated by a green ISA, thus guaranteeing a specific ideological reproduction of the financial elites. The charged semiotics space of the green bonds boot camp, however, also leaves these subjects with contradictory feelings as to the effectiveness of different green finance perspectives. This contradiction arises from the disavowal of other climate response possibilities that adherence and interpellation in green finance may forego.

Conclusions

Within the growing green financial complex, the proliferation of labels and signifiers to denote the green features of financial instruments seem fundamental for their own valorisation. Through an analysis of the mechanisms and the actors involved in the definition of green bonds pricing and by observing the educational purposes of the green bonds boot camp that one of us has witnessed, we employ the analytical Althusserian toolkit to contend that the fast-emerging constitution of ‘greenness’ is grounded in an ideological apparatus which strives to maintain its hegemony. The linking of the burgeoning field of green finance – and its developing ideological claims – to Althusserian materialism – and its ideology as immanent in practices and apparatuses – we suggest might open up a new way of

conceptualisation of the notion of financial value in the transitional time of energy transition.

Specifically, we contend that the value of the greenium, which emerges out of green bonds practices of valuation, cannot merely be attributed to the performativity of models and formulas for risk engineering. Rather, it is the material effect of a subjectivation apparatus attuned to the existing reality of relations of production (see Althusser 2014). Ultimately, we submit, ‘value’ is performed through the tendency of capital to reproduce relations of exploitations in transitional time.

As we have shown, the aleatory constitution of the green hegemonic front rests on processes of articulation in which green financial labels are crystallising an ever longer chain of heterogenous positions. In the case of green finance, we show how the greenness which becomes encrypted in the greenium is a process of translation of language of capital valorisation (Mezzadra 2010; Dal Maso 2022). We question whether this new ideological apparatus of green finance – often incapable as it is of listening to what any subaltern is (not) able to speak (Spivak quoted in Butler et al. 2000) – can really represent a revolutionary action to rescue us from climate catastrophe. Finally, given that processes of valuation-cum-subjectivation are materialised in states and market institutions, as well as in their produced rituals, and unfold with the specific long temporality of any ideological apparatus; we ask whether this apparatus can diachronically bring about the real change it preaches. As we learn from Althusser, this temporality is ‘long’ compared to the short one of the organised political action to reach radical change, thus begging the question of its adequacy to tackle the urgency of climate change.

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References

- Agliardi, Elettra, and Rossella Agliardi. 2019. "Financing Environmentally-Sustainable Projects with Green Bonds." *Environment and Development Economics* 24(6): 608–623.
- Aglietta, Michel, and Étienne Espagne. 2016. *Climate and Finance Systemic Risks, More than an Analogy? The Climate Fragility Hypothesis*. Paris: CEPII (Centre d'études prospectives et d'informations internationales).
- Althusser, Louis. 2014. *On the Reproduction of Capitalism: Ideology and Ideological State Apparatuses*. London: Verso.
- Appadurai, Arjun. 2016. *Banking on Words: The Failure of Language in the Age of Derivative Finance*. Chicago, IL: University of Chicago Press.
- Austin, John Langshaw. 1962. *How to Do Things with Words*. Oxford: Oxford University Press.
- Balibar, Étienne. 2015. "Althusser's Dramaturgy and the Critique of Ideology." *Differences* 26(3): 1–22.
- Bargu, Banu. 2015. "Althusser's Materialist Theater: Ideology and Its Aporias." *Differences* 26(3): 81–106.
- Bargu, Banu. 2019. "Police Power: The Biopolitical State Apparatus and Differential Interpellations." *Rethinking Marxism* 31(3): 291–317.
- Baud, Céline, and Eve Chiapello. 2017. "Understanding the Disciplinary Aspects of Neoliberal Regulations: The Case of Credit-Risk Regulation under the Basel Accords." *Critical Perspectives on Accounting* 46: 3–23.
- Beckert, Jens. 2016. *Imagined Futures*. Cambridge, MA: Harvard University Press.
- Bengtsson, Elias. 2008. "A History of Scandinavian Socially Responsible Investing." *Journal of Business Ethics* 82(4): 969–983.
- BIS (Bank for International Settlements). 2020. *The Green Swan. Central Banking and Financial Stability in the Age of Climate Change*. Basel: BIS. <https://www.bis.org/publ/othp31.pdf>.
- BMF (German Ministry of Finance). 2020. "Press Release Germany to Issue Green German Federal Securities from 2020." https://www.deutsche-finanzagentur.de/fileadmin/user_upload/institutionelle-investoren/pdf/Green_Bond_Investor_Presentation_2020.pdf, accessed 29 April 2021.
- Bracking, Sarah. 2015. "Performativity in the Green Economy: How Far Does Climate Finance Create a Fictive Economy?" *Third World Quarterly* 36(12): 2337–257.
- Bracking, Sarah. 2019. "Financialisation, Climate Finance, and the Calculative Challenges of Managing Environmental Change." *Antipode* 51(3): 709–729.
- Brightman, Marc, and Jerome Lewis. 2017. "Introduction: The Anthropology of Sustainability: Beyond Development and Progress." In *The Anthropology of Sustainability*, edited by Marc Brightman and Jerome Lewis, 1–34. New York: Palgrave MacMillan.
- Bruckner, Benedikt, Klaus Hubacek, Yuli Shan, Honglin Zhong, and Kuishuang Feng. 2022. "Impacts of Poverty Alleviation on National and Global Carbon Emissions." *Nature Sustainability* 5(4): 311–320.

- Burgio, Alberto. 2020. "Gramsci, Historian of Modernity." In *Gramsci in the World*, edited by Fredric Jameson and Roberto M. Dainotto, 38–58. Durham, NC: Duke University Press.
- Butler, Judith. 1993. *Bodies That Matter: On the Discursive Limits of Sex*. New York: Routledge.
- Butler, Judith. 1997. *Excitable Speech: A Politics of the Performative*. New York: Routledge.
- Butler, Judith. 2010. "Performative Agency." *Journal of Cultural Economy* 3(2): 147–161.
- Butler, Judith. 2015. "Theatrical Machines." *Differences* 26(3): 23–42.
- Butler, Judith, Ernesto Laclau, and Slavoj Žižek. 2000. *Contingency, Hegemony, Universality: Contemporary Dialogues on the Left*. London: Verso.
- Callison, Candis. 2015. *How Climate Change Comes to Matter: The Communal Life of Facts*. Durham, NC: Duke University Press.
- Carney, Mark. 2015. "Breaking the Tragedy of the Horizon – Climate Change and Financial Stability." Speech Given at Lloyd's of London, 29 September.
- Carney, Mark. 2021. *Value(s): Building a Better World for All*. Toronto, ON: Penguin Random House.
- CBI. 2015. *Bonds and Climate Change. The State of the Market 2015*. <https://www.climatebonds.net/files/files/CBI-HSBC%20report%207July%20JG01.pdf>, accessed 4 October 2023.
- Chancel, Lucas, and Thomas Piketty. 2015. "Carbon and Inequality: From Kyoto to Paris Trends in the Global Inequality of Carbon Emissions (1998-2013) & prospects for an equitable adaptation. Fund World Inequality Lab". *HAL* (halshs-0265526).
- Christophers, Brett. 2017. "The Performativity of the Yield Curve." *Journal of Cultural Economy* 10(1): 63–80.
- Dal Maso, Giulia. 2020. *Risky Expertise in Chinese Financialisation: Returned Labour and the State-Finance Nexus*. Singapore: Palgrave MacMillan.
- Dal Maso, Giulia. 2022. Bridging "green" Asymmetries through Crises: How a Chinese Green Bond has Landed in Portugal. *Focaal* (93): 46–59.
- Dal Maso, Giulia, Aneil Tripathy, and Marc Brightman. 2022. "A Moral Turn in Finance? Labeling, Purpose, and the Morality of Markets." *Focaal* (93): 1–17.
- De Ípola, Emilio. 2018. *Althusser, the Infinite Farewell*. Durham, NC: Duke University Press.
- EIB (European Investment Bank). 2007. *The "Climate Awareness Bond" EIB promotes climate protection via pan-EU public offering*. European Investment Bank Press Release. https://www.unicreditgroup.eu/content/dam/unicreditgroup/documents/inc/press-and-media/FOR_DISTRIBUTION_MAY_22_2007_EPOSeng.pdf, accessed 30 April 2021.

- EIB (European Investment Bank). n.d. "Green Bond Market Development and EIB". <https://www.eib.org/attachments/green-bond-market-development-and-eib.pdf>, accessed 5 October 2023.
- ENEL (National Electricity Board [Italy]). 2020. "Base Prospectus Dated 9 January 2020." https://www.enel.com/content/dam/enel-com/documenti/investitori/investire-in-enel/programmi-principali/medium-term-notes/base-prospectus_9jan2020.pdf, accessed 30 April 2021.
- Gabor, Daniela. 2021. "The Wall Street Consensus." *Development and Change* 52 (3): 429–59.
- Gabor, Daniela, and Jakob Vestergaard. 2016. "Towards a Theory of Shadow Money." *Institute for New Economic Thinking, INET Working Paper* 24: 41.
- Goetzmann, William N. 2016. *Money Changes Everything: How Finance Made Civilization Possible*. Princeton, NJ: Princeton University Press.
- Gramsci, Antonio. 1975. *Quaderni Dal Carcere. Edizione Critica Dell'Istituto Gramsci*. Edited by Valentino Gerratana. Turin: Einaudi.
- Hardt, Michael, and Antonio Negri. 2019. "Empire, Twenty Years On." *New Left Review* 120: 67–92.
- Harrison, Caroline, Candace Partridge, and Aneil Tripathy. 2020. "What's in a Greenium: An Analysis of Pricing Methodologies and Discourse in the Green Bond Market." *Journal of Environmental Investing* 10(1): 64–76.
- Hofstadter, Douglas R. 1979. *Gödel, Escher, Bach*. London: Harvester Press.
- Hollywood, Amy. 2002. "Performativity, Citationality, Ritualization." *History of Religions* 42(2): 93–115.
- ICMA (International Capital Markets Association). 2021. "Introduction to Green, Social and Sustainability (GSS) Bonds." <https://www.icmagroup.org/executive-education/courses/introduction-to-green-social-and-sustainability-gss-bonds/>, accessed 30 April
- Igoe, Jim. 2021. *The Nature of the Spectacle: On Images, Money, and Conserving Capitalism*. Tucson, AZ: University of Arizona Press.
- Jameson, Fredric. 1998. *Brecht and Method*. London: Verso.
- Jameson, Fredric. 2020. *Allegory and Ideology*. London: Verso.
- Kockelman, Paul. 2013. *Agent, Person, Subject, Self: A Theory of Ontology, Interaction, and Infrastructure*. Oxford: Oxford University Press.
- Konings, Martijn. 2015. *The Emotional Logic of Capitalism*. Stanford, CA: Stanford University Press.
- Laclau, Ernesto. 2014. *The Rhetorical Foundations of Society*. London: Verso.
- Laclau, Ernesto, and Chantal Mouffe. 2001. *Hegemony and Socialist Strategy: Towards a Radical Democratic Politics*. London: Verso.
- Leins, Stefan. 2020. "Narrative Authority: Rethinking Speculation and the Construction of Economic Expertise." *Ethnos* 87(3): 1–18.
- Levidow, Les. 2020. "Turning Nature into an Asset: Corporate Strategies for Rent-Seeking." In *Assetization: Turning Things into Assets in Technoscientific Capitalism*, edited by Fabian Muniesa and Kean Birch, 225–257. Cambridge, MA: MIT Press.

- Mann, Geoff. 2018. *Climate Leviathan: A Political Theory of Our Planetary Future*. London: Verso.
- Mann, Geoff, and Joel Wainwright. 2019. "Political Scenarios for Climate Disaster." *Dissent* 66(3): 65–72.
- Martines, Lauro. 1988. *Power and Imagination: City-States in Renaissance Italy*. Baltimore, MD: Johns Hopkins University Press.
- Mezzadra, Sandro. 2010. "Living in Transition. Toward a Heterolingual Theory of the Multitude." In *The Politics of Culture: Around the Work of Naoki Sakai*, edited by Richard Calichman and John Namjun Kim, 121–137. New York: Routledge.
- Montag, Warren. 2013. *Althusser and His Contemporaries*. Durham, NC: Duke University Press.
- Moor, Liz, and Celia Lury. 2011. "Making and Measuring Value." *Journal of Cultural Economy* 4(4): 349–454.
- Moor, Liz, and Celia Lury. 2018. "Price and the Person: Markets, Discrimination, and Personhood." *Journal of Cultural Economy* 11(6): 501–513.
- Mouffe, Chantal. 2022. *Towards a Green Democratic Revolution: Left Populism and the Power of Affects*. London: Verso.
- Muniesa, Fabian, Liliana Doganova, Horacio Ortiz, Álvaro Pina-Stranger, Florence Paterson, Alaric Bourgoïn, Véra Ehrenstein, Pierre-André Juven, David Pontille, and Basak Saraç-Lesavre. 2017. *Capitalization: A Cultural Guide*. Paris: Presses des Mines.
- Nakassis, Constantine V. 2012. "Brand, Citationality, Performativity." *American Anthropologist* 114(4): 624–638.
- Ortiz, Horacio. 2014. "The Limits of Financial Imagination: Free Investors, Efficient Markets, and Crisis." *American Anthropologist* 116(1): 38–50.
- Ortiz, Horacio. 2020. "Liquidity." In *The Routledge Handbook of Critical Finance Studies*, edited by Christian Borch, and Robert Wosnitzer, 29–45. London: Routledge.
- Ortiz, Horacio. 2021. *The Everyday Practice of Valuation and Investment: Political Imaginaries of Shareholder Value*. NY: Columbia University Press.
- Ortiz, Horacio, and Fabian Muniesa. 2018. "Business Schools, the Anxiety of Finance, and the Order of the 'Middle Tier.'" *Journal of Cultural Economy* 11(1): 1–19.
- Ortner, Sherry. 2005. "Subjectivity and Cultural Critique." *Anthropological Theory* 5(1) 31–52.
- Pearse, Rebecca. 2021. "Theorising the Political Economy of Energy Transformations: Agency, Structure, Space, Process." *New Political Economy* 26(6): 951–963.
- Pezzolo, Luciano. 2007. "Government Debts and Credit Markets in Renaissance Italy." *University Ca'Foscari of Venice, Dept. of Economics Research Paper Series*, no. 05–07.
- Reckwitz, Andreas. 2012. *Subjekt* (3rd edn.). Bielefeld: Transcript Verlag.

- Richardson, Benjamin J. 2013. *Fiduciary Law and Responsible Investing: In Nature's Trust*. London: Routledge.
- Sato, Yoshiyuki. 2022. *Power and Resistance: Foucault, Deleuze, Derrida, Althusser*. London: Verso.
- Schumacher, Kim. 2020. "'Competence Greenwashing' Could Be the next Risk for the ESG Industry." *Responsible Investor*. <https://www.responsible-investor.com/articles/competence-greenwashing-could-be-the-next-risk-for-the-esg-industry>, accessed 5 December 2020.
- Semieniuk, Gregor, and Victor M. Yakovenko. 2020. "Historical Evolution of Global Inequality in Carbon Emissions and Footprints versus Redistributive Scenarios." *Journal of Cleaner Production* 264(2020) Article 121420: 1–11.
- Sullivan, Sian. 2013. "Banking Nature? The Spectacular Financialisation of Environmental Conservation." *Antipode* 45(1): 198–217.
- Sustainable Finance Institute. 2021. "The Sustainable Finance Institute (SFI)." *Sustainable Finance Institute*. <https://sfini.org/csfa-standard>, accessed 1 December 2021.
- Swedish Government Official Reports. 2009. "Ethics, Environment and Pensions." <https://www.regeringen.se/contentassets/8ee57c72d0184f7ea465166750c46876/ethics-environment-and-pensions-sou-2008107/>, accessed 26 January 2022.
- Swyngedouw, Erik. 2010. "Apocalypse Forever?" *Theory, Culture & Society* 27(2–3): 213–232.
- Taleb, Nassim Nicholas. 2007. *The Black Swan: The Impact of the Highly Improbable*. New York: Random House.
- Tomasi di Lampedusa, Giuseppe. [1957] 1969. *Il Gattopardo*. Milan: Feltrinelli.
- Tripathy, Aneil. 2017. "Translating to Risk: The Legibility of Climate Change and Nature in the Green Bond Market." *Economic Anthropology* 4(2): 239–250.
- Tripathy, Aneil. 2022a. "Careers and Climates: Becoming and Being a Climate Finance Practitioner." *Focaal* (93): 32–45.
- Tripathy, Aneil. 2022b. "How Should We Deal with Climate Change?" In *People before Markets: An Alternative Casebook*, edited by Daniel Scott Souleles, Johan Gersel, and Morten Sørensen Thaning, 184–203. Cambridge: Cambridge University Press.
- UNEP. 2016. *Towards a Performance Framework for a Sustainable Financial System*. Inquiry Working Paper 16/14
- WCED (World Commission on Environment and Government). 1987. *Our Common Future. Report of the World Commission on Environment and Development*. <https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf>.
- Zaloom, Caitlin. 2009. "How to Read the Future: The Yield Curve, Affect, and Financial Prediction." *Public Culture* 21(2): 245–268.

Zerbib, Olivier David. 2016. "Is There a Green Bond Premium? The Yield Differential between Green and Conventional Bonds." *Published in the Journal of Banking and Finance* 98: 39–60.

Žižek, Slavoj. 1989. *The Sublime Object of Ideology*. London: Verso.

Žižek, Slavoj. 2019. *The Sublime Object of Ideology*. London: Verso.

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