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WHITHER SUSTAINABLE DEVELOPMENT? THE GLOBAL ECONOMIC SYSTEM'S CONTRIBUTION TO SUSTAIN ECOLOGICALLY UNEQUAL EXCHANGE

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Whither Sustainable Development? The Global Economic System's Contribution to Sustain Ecologically Unequal Exchange*

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1. Introduction

Sustainable development is a normative concept that was conceived as a paradigm to reconcile competing and conflicting interests in economic development, social justice and environmental protection. In legal terms, sustainable development (hereinafter, SD) has been portrayed in manifold ways, either as normative matrix for re-interpreting existing legal principles and rules and fostering the emergence of new ones (Dupuy 1997), or as a meta-legal principle that exerts interstitial normativity between antagonist rules (Lowe 1999). More recently, it has also been described as a decision-making framework for maintaining and achieving human well-being (Dernbach & Cheever 2015).

Much has been written about SD in international law since its official launch in the 1987 Brundtland Report and the 1992 Rio Summit (Cordonnier-Segger & Khalfan 2004; Schrijver 2008; Cordonnier-Segger, Saito, & Weeramantry 2016). Yet, while some authors remain loyal to its narrative (Dernbach & Cheever 2015), a general perception seems to develop that SD may already have seen its best days (Viñuales 2013). In a recent article Dernbach and Cheever (2015) review critic literature and summarise it as conceiving SD as 'too boring' to command public attention, 'too vague' to provide guidance, and 'too late' to address the world's problems. This review, however, overlooks crucial critical, interdisciplinary literature that focuses on the governmentality underlying to this concept (Hornborg, McNeill, & Martinez-Alier 2006; Hornborg 2010; Hornborg, Clark, & Hermele 2013). In accordance with this strand of scholarship, this article will focus on its discursive elements that provide legitimacy to the present global social metabolism and modes of colonization of nature (Fischer-Kowalski & Haberl 1998), by rendering justification for on-going patterns of socially and ecologically unequal exchange and concealing the evidence of finiteness of natural resources. In other words, SD narratives bear a language of power that justifies and legitimizes pervasive patterns of informal empire or *dominium* in international relations, that is, domination of human beings by other human beings (Koskenniemi 2011).

Therefore, the aim of this article is to disentangle the old notion of *sustainability* (Bosselmann 2008) –which is shared by the most ancient civilizations (ICJ 1997: 107)– from that –historically and ideologically loaded– of *development*. To this end, we start from a two-fold assumption: Firstly, we take it as given that the SD-paradigm has neither been able to shape an effective method, nor an equitable answer, to balance economic, social and environmental concerns in the global playing field. Secondly, echoing a growing debate in academia and civil society, we also presume that any

serious attempt to meet the aforementioned challenge requires a profound review of global governance.

On this basis, in a first step (section 2), this article explores new interdisciplinary perspectives from anthropology, sociology and economics on international governance. In particular, it seeks to elucidate how these interdisciplinary insights may enrich the methodological toolkit for a critical legal scholarship on the way in which law –at different levels of normativity (international, transnational, domestic, etc.)– deals with the resonance of advanced capitalism on individuals, communities, and social and ecological systems.

Within this theoretical and methodological framework, fundamental concepts in international economic and environmental law, such as (financial) stability and SD will be reassessed in the light of the aforementioned scientific and social debates. Accordingly, section 3 forwards a critical appraisal of global governance, focusing on regulatory, institutional and procedural features of two deeply interwoven issue areas, namely global financial and environmental policies.

It concludes that despite the scepticism that predominates in legal scholarship, a global, trans-civilizational consensus is needed on the understanding of 'development' (either as economic growth or as human wellbeing), and its reconciliation with the protection of the ecological integrity. We claim that plural constitutionalism or constitutional pluralism offers a suitable approach for fostering such a global consensus that would in turn contribute more realistically to 'sustainability' in economic, social and environmental terms altogether

2. Towards Multidisciplinarity: Integrating Legal and Extra-Legal Perspectives for a Critical Appraisal of Global Law and Governance

This article challenges the global North's understanding of *development* that has been spread out across different geographical, economic and cultural contexts through globalization. Initially portrayed as a sacred trust of civilization of formerly colonial peoples 'not yet able to stand by themselves under the strenuous conditions of the modern world',[1] over the twentieth century development –as opposed to underdevelopment– has come to substitute the former distinction between the civilized and the uncivilized (Obregón 2012), systematically discarding traditions, which were not based on material accumulation, thus featuring patterns of interaction with the

[1] Art. 22 Covenant of the League of Nations.

natural world at odds with industrial societies (Gordon 2015: 55). Indeed, the conspicuous social and ecological impacts of the developmental agenda have elicited its modulation over time, SD being the latest purportedly normative concept that qualifies the development paradigm, by framing it in socially and environmentally more responsible terms. It does so, however, without calling into question the foundational premises, concepts and discourses inherent to the governmentality of advanced capitalism.

As Viñuales has convincingly argued, SD's intrinsic prescriptive vagueness was part of a 'diplomatic trick' that has been remarkably effective in catalysing global principled agreements between the North and the South for harnessing economic, social and environmental concerns in a wide range of issue areas. The flip side of this indeterminacy, however, has been SD's wanting normative pull for deciding trade-offs between conflicting interests and cosmologies of the North and the South (Viñuales 2013). SD has thus been unable to effectuate any meaningful behavioural change that would have compromised the mainstream understanding of *development* with the objectives of social equity and ecological sustainability as a matter of global common concern. The argument can be made that, while paying lip service to sustainability, SD discourse not only legitimises business as usual. Even worse, regulatory approaches and techniques applied *i.a.* in the climate change (Lohmann 2012) and biodiversity regimes (Kotzakis 2014) have opened new perspectives for *development* through the financialization of natural resources. In so doing, however, SD deliberately conceals the historical and enduring impact that *development* has on the natural world.

From a social-systems theory perspective, globalization, understood as transition from industrial fordist capitalism to advanced financial capitalism, has led to the worldwide primacy of the economic system, with its specific rationality and privatistic logic, over other social systems. This prevalence of the economic system over the social reproduction has fostered the structural de-coupling among the different social systems (political, legal, etc.) and the environment. The recent financial-economic crisis of 2008 and the on-going ecological crisis are negative consequences of this kind of post-modern order in a contemporary world featured by radical contingency and uncertainty. The security threats from new illiberal transnational actors (i.e. ISIS) are also evidence of the systemic changes that do not fit into traditional categories. Such a transformation of the world society raises a two-fold challenge for public law: (1) it faces an epistemological question, since uncertainty affects the conditions of knowledge of public law itself; and (2) public law must also address an ontological issue, given that, when confronted with systemic risks or security dilemmas, the object of law entails a specific form of uncertainty, namely that relating to possible catastrophic

outcomes or to the collapse of fundamental categories of constitutional and international law.

Yet, the attempt to tackle global governance gaps through the traditional, mainstream regulatory rationality fails in recognizing the "constitutional moment" of international law which is arising from the postmodern world society and its post-national ordering. The continued expansion of capitalism throughout the planet has outpaced the state-centred society (national segmentation) and has promoted the emergence of globally operating structures. From a legal point of view, this means a shift from a homogeneous normative space that secures legal certainty (the state) to a fragmented one (the global transnational society), which contests the very premises of positivism.

International legal scholarship has addressed this shift in the deep structure of the (global) society from different theoretical and ideological premises, the most significant currents perhaps being global constitutionalism (Koskenniemi 2007; Klabbers, Peters, & Ulfstein 2009), post-colonialism (Rajagopal 2003; Anghie 2004; Chimni 2006) and pluralism (Teubner 1997; Fischer-Lescano & Teubner 2004a). Despite embodying inherently vague political agendas, and having clearly divergent *foci*, it can be argued that there are synergies between global constitutionalism and post-colonialism. Whereas the former strives for systemic unity, coherence, and legitimacy of international law and governance, the latter pursues the demythologisation of international law as imperialistic and Western-biased and its remythologisation in favour of third world peoples, towards a fairer, more balanced global legal system (Focarelli 2012: 123-32). Both approaches do coincide, however, on specific objectives such as the promotion of transparency and accountability by international institutions and transnational corporations, the enhancement of an effective use of the language of rights by injecting peoples' interests in non-territorialised legal orders, and the promotion of sustainability and equity (Chimni 2006: 7).

Equally, pivotal significance is increasingly ascribed to less normative, more analytical and empirical approaches –such as law in context (Twining 2000; 2009: 76)– that acknowledge the legal pluralism in the global society, and its trans- or multi-civilizational dimensions (Onuma 2010). Such a nuanced approach is thought to dilute and mitigate West- and state-centrism, especially in global constitutionalism, thus promoting less normative and more sociological conceptions thereof. Against the intuitive perception of an intrinsic antagonism between pluralism and constitutionalism (Krisch 2010), also here this purported dichotomy has convincingly been portrayed as a false one, thus making the case for constitutional pluralism (Walker 2002;

Stone Sweet 2013). This also includes eclectic currents such as societal constitutionalism (Sciulli 1992; Teubner 2012; P. F. Kjaer 2014).

The previous debate mainly reflects the formal dimension of the challenge that shifts in the deep structure of the world society pose to international (public) law. A comprehensive, critical appraisal of gaps in global law and governance also requires addressing its material dimension. Therefore, this research builds upon specific extra-legal approaches, methodologies and concepts –above all, global social metabolism– that allow an empirical appraisal of the advanced capitalism's socio-environmental impacts, while disentangling the underlying ideologically biased governmentality (Stevenson 2013).

Socio-economic metabolism, or global socio-economic metabolism (GSM), is a notion that has been developed in the realm of social sciences such as anthropology, sociology and economics since the late 1960s. According to Marina Fischer-Kowalski (1998: 64-9), the concept of social metabolism actually attempts to cut across the 'great divide' between natural and social sciences and bring together the biological concept of *metabolism* to describe and assess the material and energetic processes within the economy and society *vis-à-vis* natural systems. GSM is thus a fully-fledged interdisciplinary paradigm that appraises the interactions between societies and their natural environment. In terms of methodology, it relies on *material flow analysis* (Boulding 1966; Ayres & Kneese 1969), which allows assessing the overall material and energetic turnover of national economies, thereby providing 'macroparameters for environmental performance and efficiency that relate well to the established economic macroparameters generated by national accounts' (Fischer-Kowalski & Hüttler 1998: 122), thus providing the metabolical paradigm a scientifically sound and stringent basis. In the field of anthropology, the metabolic paradigm has been applied to assess global patterns of exchange. Deeply influenced by the work of marxist economists like Arghiri Emmanuel (1969; 1972), structuralists like Raul Prebisch (1950), and Immanuel Wallerstein's world-system analysis (1974; 1980; 1989; 2011), Hornborg combines the metabolic paradigm with Bunker's notion of 'ecological unequal exchange' (Bunker 1985) to argue that present cornucopian perceptions of *development* represent a (Western) cultural and ideological illusion that conceals a global environmental 'zero-sum game', in which the economic and technological expansion of the capitalist core nations necessarily occurs at the expense of the peripheral areas of the world-system. Mainstream discourses on 'sustainability' or –even worse– 'resilience' are thus portrayed as a void rhetoric that aims at disarming ideologically the necessary acknowledgment of the world-system's present and historical socio-ecological contradictions (Hornborg 2009).

For the purpose of our research, GSM and ecologically unequal exchange combine structuralist and post-structuralist approaches that make the intrinsic inconsistencies of current global governance discernible. While ecological economics applies the concepts and methods inherent to the metabolical approach to provide a structural account of global socio-ecological or environmental injustice (Martínez-Alier 2003; Martinez-Alier & al. 2010), anthropology and human ecology also bring in a post-structuralist appraisal of the cultural premises of the mainstream discourses that sustain the GSM and present patterns of exchange. Such a post-structuralist approach has only recently emerged in the context of (international) legal scholarship. As Bettina Lange posits (2011: 57), such an approach –viz. Foucauldian-inspired discourse analysis– may contribute to the development of 'non-essentialist accounts of the operation of law' as one of the core aspirations of critical legal scholarship. In addition, it might also be expected to open new avenues for research and change in environmental law that complement the so far predominant search for underlying political or economic structures as explaining factors of the operation of this specific field of law.

3. Gaps in Global Financial and Environmental Governance: Two Interconnected Phenomena

The social and technological development of the past decades has outgrown the traditional (Westphalian) patterns of international governance. Whilst nation-states maintain their formal status in the global political arena, social movements, markets and technologies are challenging and displacing state authority, thereby multiplying governance gaps. Global financial markets and climate change are two paradigmatic areas where these gaps are most visible. In fact, the parallel ongoing financial and environmental crises are portrayed here as not occasionally coinciding events, but rather, as structural and interconnected phenomena that arise from the contradictions and paradoxical developments of the current globalized economic system, based on regulatory and financial capitalism. In this regard, evidences and interpretations rely on theories developed mainly in the realm of ecological economics, demonstrating how the ecological and economic crises are deeply interwoven Accordingly, section 3.1 will focus particularly on what we regard as two of the global economy's structural flaws: energy and finance. Our main argument is that social reproduction relies on the compulsion to growth based on energy resources exploitation and money mechanism control (Douthwaite 2012). Yet, both of these two pillars of economic development lead to systemic risks, one through pollution and climate change, the other due to the excess of private and

sovereign debts and asset bubbles (Caballero, Farhi, & Gourinchas 2008; Kallis, Kerschner, & Martinez-Alier 2012: 173).

Against this background, subsection 3.2 will portray international environmental law and governance as a set of rules, policies and institutions devoted to cope with and mitigate the negative externalities of the global societal metabolism. The argument will be forwarded that weak and scattered institutions of MEAs, which are impregnated from a managerial idiosyncrasy, are mandated to implement environmental regimes that are subservient to the overarching rationale of the global economic and energetic systems. In this setting, SD provides the legitimating discourse. Under these premises, however, the fundamental question remains whether international environmental law and governance have the capacity to mitigate effectively the resonance of advanced capitalism on individuals, communities, and social and ecological systems

3.1. Governance gaps in the global financial system

The 2008 financial meltdown has shown once again that a crisis is the consequence of a discrepancy between the form and the location of political and the economic power and the legal and institutional architecture, which aimed to stabilize this power (Kjaer 2010: 30). The stabilizing Westphalian-Keynesian frame, as outlined in the Bretton-Woods architecture, was the logical consequence of the political, military and economic power of the U.S. However the withdrawal of Bretton-Woods arrangement ended up with the "world-economy" model and with the stability of currency exchange, anchored to the gold standard. The need to maintain the hegemonic role of the U.S. dollar as an international trade and reserve currency was held by stabilizing the dollar exchange rate (Di Gaspare 2011).

This stabilization was to be achieved regardless of the real economy and on the basis of the paradigm of monetary flow balance, facilitated by the free movement of capitals. According to Kjaer, the expansion of the global capitalist economy, with the U.S. dollar as its anchor, "has relied upon the basis of monetarist ideology, an unfeasible compensatory reaction to global structural change, which led to a partial breakdown of functional separation between the economic and the political system" (Kjaer 2010: 32) and the capture of the latter by the former. Increasing growth levels were required to maintain a dominating position of U.S. economy, therefore reproducing core/periphery structure of capitalist world-system this time through the hierarchical construction of financial system (Pistor 2013: 313-5). Based on this hegemonic construction, globalization appears like a transition from industrial capitalism to financialism, which was made possible by a complex

network composed by commercial banks, credit rating agencies, and other financial institutions in the shadow market.

This transition from industrial to financial capitalism seems to rely on a significant shift in predominant economic ideology, through which finances increasingly occupy the entire understanding of economic mechanics. In this phase of capitalism the process of capital accumulation takes place through financial channels rather than following traditional paths of production and trade (Epstein 2005). Financial capitalism is characterized by three essential features (Bresser-Pereira 2010a: 8): 1) a huge increase in the total value of financial assets circulating globally as a result of the proliferation of financial instruments provided by the securitization and derivatives; 2) the decoupling of the real economy and the financial economy with an excessive creation of fictitious financial wealth; 3) a significant increase in the rate of profits of financial institutions and in their capacity to pay large bonuses to financial traders for their ability to increase capitalist rents.

According to Mitchell (2012: 42), two theoretical pillars sustain this model: The first is based on a distorted interpretation of Adam Smith's theory of the invisible hand, which, once stripped of its political and social emancipatory connotations, eventually ended up justifying the pursuit of maximum profit, free markets and deregulation. The second relates to the valuation model of financial assets (capital asset pricing model, forthwith CAPM) that has led to the increase of reckless investments based on the separation of stock ownership from any concerns with the underlying business.

The process of financialization led to a critical shift from the regular financial market, based on credit to business enterprises, to a different one, based on securities traded by an opaque network of financial investors in over-the-counter markets. In this way, financialization has led to ‘a general malfunction of the genome of finance’ (Bresser-Pereira 2010a: 9). Nevertheless, finance continues to play a fundamental and unavoidable role as it remains the science of goal architecture, that is to say, of the economic arrangements necessary to achieve a set of goals and of the stewardship of the assets needed for that achievement (Shiller 2012: 28-9). Indeed, banking services are essential to society, as they are key to the monetary system, to credit and payments. Leverage and maturity mismatch temporarily expose banks to liquidity risks and possible bank runs the negative effects of which would extend to the entire economic system. Therefore the relationship between society and banks are governed by a ‘social contract’. Under this contract, banks may profit from risk activities such as the maturity transformation and liquidity; they have also access to the auctions and

liquidity injections by central banks; and they benefit from the protection provided by deposit insurance funds. In exchange, they are subject to prudential supervision, regulation of capital requirements and constraints on the activities they can perform. The imposition of regulatory requirements reflects the need to address the moral hazard from the existence of explicit and tacit "safety nets" arranged by public authorities and financed by taxpayers (Ricks 2010: 3). Ultimately, this is an issue of major political and constitutional significance to the extent that, as observed Caliari, “the crisis represents an expensive case study of how deeply financial regulatory choices affect the distribution of income and subvert the social contract in entire societies” (2011).

Financialization may therefore be seen as the evolutionary result of the capitalist system that has generated the legal incentives (public intervention, deregulation, regulatory arbitration, ratings as regulatory license and credit rating agencies as unconventional gatekeepers) for the establishment of a network of shadow banking institutions. Therefore, even in its present financialized facet, the capitalist system necessarily remains a regulatory system. Put differently, ‘regulatory capitalism’ (Levi-Faur 2005; 2006; 2011) is the characteristic pattern of the current global system that allows us to understand and explain the relations between states, markets and other public and private non-state actors. Beyond an overview of the relationship between politics and technique, this perspective provides insight on the ability of those holding specific technical know-how (Quack 2009) to create not only sophisticated regulatory instruments, but a real episteme.

According to Cohen (2010), throughout the 90s, a system of governance in the global financial market was taking shape based on three pillars: 1) the establishment of formal and informal transnational networks, gathering the main public and private actors of the North Atlantic financial world,[2] with little oversight from public authorities outside of the complex and opaque world of finance; 2) self-regulation of the financial industry and the subsequent ‘publicization’ of private standards and, therefore, the dependence of public regulation on the rules and standards set in the private sector; 3) ‘regulatory capture’, that is to say, the dependence of public authorities and regulators on private financial expertise. The convergence of these three factors inevitably led to the increase of the weight of the

[2] These are the Committee on Banking Supervision (BCBS), the Bank for International Settlements (BIS), the International Organization of Securities Commissions (IOSCO), the Financial Stability Forum, the International Institute of Finance, the International Swaps and Derivatives Association (ASDA), etc.

private financial sector's interests to the detriment of the overarching common interest (Cohen 2010: 13).

This accumulation of economic and political power in large enterprises and the existence of market externalities generate public demand for regulation with private corporations requiring greater participation in its adoption. In view of the aforementioned flaws in the governance system of global financial markets, however, a fundamental question arises: is it possible to solve problems of financial capitalism by simply more regulation?

In the hegemonic discourse of global institutions of financial supervision (G-groups, FSB, IMF, WB, BCBS, IOSCO, etc.), the problem has been treated as a technical issue, which ultimately led to the adoption of a series of measures to strengthen supervision and regulation, as recommended by the FSB (2012). However, the measures envisaged remain trapped in essentially the same techno-economic ideology and, hence, the same policies that allowed the default crisis to unfold. The fundamental rationale of these reforms is to guarantee the stability of the financial system, understood as a supranational public good. Nevertheless, one may doubt whether the financial system's stability per se, without its linkage to new conceptual paradigms that further the pursuit of the common good, may lead to anything different than the perpetuation of a system that allows to dominate and put a price on any risk (Gamble 2010).

From the early beginnings of globalization, law has assumed a supporting role of markets, relying on self-regulatory capacity, rationality and efficiency. For this reason and in accordance with Awrey's thesis, the intellectual origins of the crisis can be placed on the shortcomings of conventional financial theory. The ideology of modern finance has exerted a powerful influence on the way we had to regulated markets and institutions, generating confidence that the risks had been dominated (Awrey 2012). Financialization system sponsored by the law in the past thirty years, has contributed to the formation of a network of banks, rating agencies and other shadow financial institutions, joined by securitization practices. After the debacle of this supposedly safe model, the system returns to stimulate demand for regulatory action (Kessler & Wilhelm 2013: 249). Once again, remedies are sought for in law, whilst mainstream economic idiosyncrasy prevails in the debates on the necessary reforms.

By virtue of these developments, the global financial conglomerates have now the control of the main source of money creation through the provision of credit guarantees. It is this massive creation of money by private financial institutions that is responsible for the current excess of compulsion to

growth in the global financial sector. The European debt crisis might be understood as an attempt to move into the Eurozone the costs of structural changes within the global economy (Di Gaspare 2011: 407ff). As Teubner argued (2011), a reform aimed to straighten this kind of issues goes right to the heart of economic constitution: the money mechanism. The constitutional moment arisen from the crisis have to meet the need to inhibit pathological compulsions to grow. The reform must drive towards a new coupling between economic and political systems and institutional architecture that should not be oriented one-sidedly towards market-efficiency, instead towards social and environmental sustainability.

Acknowledging the inherent fragility of financial systems (Klemkosky 2013), the discourses in technical and academic fora of a national, regional and global scope tend to emphasize the necessity of ensuring 'financial stability', which in this way is portrayed as a supranational public good (Napolitano 2012). However, it should be noted that the stability, despite its systemic importance, still remains an instrumental good. The less democratic systems have experienced a less severe degree of exposure to the negative effects of the financial crisis. So that taking seriously the task of reforming the global governance of financial systems seems to require anchoring the legal discourse on substantive values such as justice, as well as on the definition of a series of 'meta-standards' suitable to guide decision-making in environments characterized by uncertainty and complexity (Goldmann 2014: 12ff).

In brief, the arguments exposed above show the existence of several governance gaps, namely, 1) western hegemonic configuration of financial market system; 2) breakdown of the functional separation between economic and political system; 3) financialism as ideological core underpinning the economics mechanism; 4) arising of irresponsible investment model; 5) subversion of the social contract with bank; 6) violation of fundamental and social rights, people capabilities and social welfare; 7) regulation as catalyst instead of stabilizer of compulsive growth; 8) hybrid-opaque governance networks; 9) fictitious reduction of complexity and negligent treatment of uncertainty; 10) market-efficiency pre-emption over social and environmental sustainability.

3.2. Governance gaps in global efforts to cope with the environmental crisis

International Environmental Law is indeed a relatively novel area of international law, which gradually emerged in the first half of the twentieth century from the application of general principles of law to issues of transboundary pollution and the management of shared natural resources.

Towards the end of the century, however, the sense of the urgency to address socio-environmental impacts of worldwide economic activities led to the inception of regional and global treaty-based regimes dealing with planetary environmental problems as issues of 'common concern of humankind' (Bodansky 2010: 30-5). The argument will be made that contemporary international environmental law and governance is the normative and institutional reaction of the political and legal systems to the negative externalities of the operation of the economic system, without calling into question, however, its hegemony. Moreover, these normative and institutional developments took place at a given historical crossroads, namely, the collapse of the socialist regimes and the end of the East-West confrontation. In this broad context, SD can be fairly portrayed as the legitimating discourse that encapsulates the grammar of power, which ensures the structural coupling of environmental and economic normative orders (Kjaer 2014: 72-6), by which social equity and ecological integrity is contingent upon and subservient to economic development.

The consideration and protection of common interests has visibly shaped the evolution of that particular field of international environmental law and governance, both from a substantive and from an institutional and procedural perspective. On the one hand, the identification of issue areas that are perceived to be of 'common concern to humankind' has led to the incorporation of principles of inter- and intra-generational equity into global environmental law that have profoundly changed the formerly discretionary role of states in their mutual relations, towards a more functional role, according to which '[s]tates are to act in the interest of individuals and groups in society and in the common interest' (Hey 2009: 154). On the other hand, decision-making patterns that unfolded within the (global) MEAs' bodies for the development and implementation of the treaty provisions are shifting away from classical procedures based on the formal manifestation of consent in response to a general acknowledgment of the need for a more dynamic and flexible approach (Churchill and Ulfstein 2000; J Brunnée 2002; J Brunnée 2005; Wiersema 2009). These specific features of environmental regimes underpin their notorious trend towards autonomy or self-containment – in other words, regime-specific law-making and enforcement solutions.

North-South tensions, moreover, explain the rather weak pattern of institutionalisation of global environmental governance (Ivanova 2007). The scattered institutional framework of international environmental governance has often been portrayed as hampering its effectiveness and problem-solving capacity, thus feeding the pervasive debate about the necessity for a world environment organization (Biermann & Bauer 2005).

Yet, the loose network of the MEAs' autonomous institutional arrangements has arguably allowed for bespoke responses and, where necessary, for regional or thematic clustering of treaties and institutions (von Moltke 2005). Therefore, from an institutional perspective, international environmental governance has been accurately described as a 'decentralized network of embedded, nested, clustered, and overlapping institutions' (Kim & Mackey 2013: 13; Young 1996: 20). This network also features a remarkable variety of inter-institutional cooperative arrangements – both for normative regime development and for decision-making in individual situations – that suggest the discrete emergence of global administrative law in this field (Hey 2007: 751-5).

The outstanding flexibility of MEAs to adapt their principles, rules and institutions to changing external conditions allows describing international environmental law as a 'complex adaptive system' (Kim & Mackey 2013). Such adaptability, however, materializes in the absence of an overarching goal, a 'single, legally binding superior norm' able to steer this adaptive process towards safeguarding the integrity of Earth's life-support system (Kim & Bosselmann 2013). Rather, what drives the normative coordination and inter-institutional cooperation between MEAs, and among MEAs and other treaties and international institutions, are treaty-specific conflict clauses (Wolfrum & Matz 2003; Matz-Lück 2006), as well as secondary rules of general international law, such as the rule of consistent interpretation of treaties and the principle of systemic integration (McLachlan 2005), or the principle of mutual supportiveness (Pavoni 2010).

Within this legal-institutional framework, amidst the optimistic 'end-of-history' atmosphere of the immediate post-Cold War (Fukuyama 1989), the international environmental protection measures were to be applied through the use of different regulatory approaches, ranging from direct regulation (command-and-control) to the use of different kinds of economic instruments, with an increasing trend towards a more prominent use of systems of economic incentive (Stewart 2000: 220-7). Conceived as a far more effective means for internalising environmental costs and eliciting behavioural change, their implementation by national authorities in the quest for SD was ultimately encouraged in Principle 16 of the 1992 Rio Declaration on Environment and Development (UN 1992). The underlying regulatory approaches allow to broadly distinguish three types of environmental regimes (Cardesa-Salzmann 2012: 109).

In a first group of environmental regimes aiming at the protection of the global commons – such as the ozone[3] and climate change regimes,[4] or the persistent organic pollutants[5] and mercury regimes[6] – MEAs establish measures of direct regulation, which are combined with economic incentive systems. These regimes set up global standards, such as the progressive reduction and elimination of controlled substances, or the quantified limitation or reduction commitments of certain emissions, whose implementation is to be incentivised through the use of various market-based instruments, such as restrictions in trade with controlled substances or the so-called 'flexible mechanisms' under the Kyoto Protocol.

In contrast thereto, in a second set of regimes established for the protection of components of the global ecosystem that are natural resources under the jurisdiction of States, such as the biodiversity[7] and desertification regimes,[8] the measures envisaged by MEAs enhance the application of principles and duties of general international law within their respective scopes of application through economic instruments of a more general nature. As developed by the 2010 Nagoya Protocol,[9] the Convention on Biological Diversity establishes instruments for the equitable participation in the benefits and charges derived from the utilisation of genetic resources, as a way to incentivise the conservation and sustainable use of the components of biological diversity,[10] whereas the Desertification Convention envisages the sustainable use of soil by offering financial, scientific and technical development aid to developing countries (Cardesa-Salzmann 2014).

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[3] Vienna Convention for the Protection of the Ozone Layer (22 March 1985) 1513 UNTS 293, (1987) 26 ILM 1529; Montreal Protocol on Substances That Deplete the Ozone Layer (16 September 1987) 1522 UNTS 3, (1987) 26 ILM 1541.

[4] United Nations Framework Convention on Climate Change (9 May 1992) 1771 UNTS 107, (1992) 31 ILM 851; Kyoto Protocol (11 December 1997) 2303 UNTS 148, (1998) 37 ILM 22.

[5] Stockholm Convention on Persistent Organic Pollutants (23 May 2001) 2256 UNTS 119, (2001) 40 ILM 532.

[6] Final Act of the Conference of Plenipotentiaries on the Minamata Convention on Mercury, Annex II (UNEP(DTIE)/Hg/CONF/4, 11 Oct. 2013).

[7] Convention on Biological Diversity (5 June 1992) 1760 UNTS 79, (1992) 31 ILM 822; International Treaty on Plant Genetic Resources for Food and Agriculture (3 November 2001) 2400 UNTS 379.

[8] Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, particularly in Africa (17 June 1994) 1954 UNTS 3, (1994) 33 ILM 1328.

[9] COP Decision X/1, Annex I. UN Doc UNEP/CBD/COP/10/27 (2011).

[10] The same approach is followed in the International Treaty on Plant Genetic Resources for Food and Agriculture, which is linked both to FAO and the CBD.

A third group of environmental regimes – such as the hazardous wastes,[11] the biosafety [12] and the pesticides [13] regimes – specifically regulate international movements of products that pose a risk to the environment and human health in a way consistent with the WTO agreements, by submitting them to a prior informed consent procedure (Hilson 2005). Complementary thereto, strict liability regimes for environmental damage are foreseen as a means to implement the polluter-pays principle, which nonetheless are not yet in force. These include the Cartagena Protocol's COP-MOP just adopted the Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress in October 2010,[14] and the 1999 Basel Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes.

Overall, despite a general trend towards an increasing intensity in the protection of common versus (national) parochial interests in the aforementioned types of regimes, the dominant underlying understandings of justice –namely those of justice as property rights and as self-interested reciprocity– are consistent with neoliberal political economic ideology. Accordingly, the argument has been fairly put forward that 'the compromise over the neoliberal political doctrine has led to aspirations of global environmental justice being downgraded and co-opted for neoliberal ends much to the disadvantage of the South and in negation of the original vision of global sustainability' (Okereke 2008: 123). Moreover, despite the progression towards the protection of common (environmental) interests, differential treatment (Cullet 2003; Rajamani 2006) and formal recognitions to the principle of public participation in environmental governance (Principle 10 1992 Rio Declaration), there continues to persist a mismatch between substantive elements and institutional and decision-making patterns in global environmental law. As a matter of fact, these patterns have failed to grant participatory rights to the *public concerned* - borrowing the terminology of the Aarhus Convention - [15] that are able to sustain an

[11] Basel Convention on the Transboundary Movement of Hazardous Wastes and their Disposal (22 March 1989) 1673 UNTS 57, (1989) 28 ILM 649.

[12] Cartagena Protocol on Biosafety to the Convention on Biological Diversity (29 January 2000) 2226 UNTS 208, (2000) 39 ILM 1027.

[13] Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (10 September 1998) 2244 UNTS 337, (1999) 38 ILM 1.

[14] COP-MOP Decision BS-V/11. UN Doc UNEP/CBD/BS/COP-MOP/5/17 (2010).

[15] Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (25 June 1998) 2161 UNTS 447, (1999) 38 ILM 517.

interactional process that fosters the legitimacy of global environmental law and governance (Brunnée & Toope 2010). Therefore, as Hey suggests, future research should focus

> on how existing patterns of decision-making and dominant paradigms in legal doctrine foster a system of law which institutionalizes the inequalities between the South and the North and on the implications of a multi-faceted system of decision-making for enhancing procedural fairness. The former requires a critical stance towards our own discipline; the latter a creative approach (…). (Hey 2010: 72)

4. Financial and Environmental Crises, Social Metabolism and Global Governance: the Limitations of Sustainable Development

Starting from research developed on ecologic economics, we will consider in this section how international legal order contributes to generate gaps on distribution and sustainability in the global social metabolism, according to idea of ecological unequal exchange. Our diagnosis about politics governing social exchange of matter and energy —internal distribution of social metabolism— is based in the existence of ecological unequal exchange and its dependence on certain institutional structure and legal regime at international level. Ecologically unequal exchange and the disproportionate use of common goods cannot be disassociated from the cultural, political and economic basis of international legal system.

To understand how and why the international legal order underpins such an economic structure, one needs to recall the historical connection between the state and the market. Such a historicist approach, in turn, explains the function that law, as a cultural construct, has carried out organising the social metabolism and legitimating the power structures that determine it (Häberle 2001: 18; W Twining 2009). The state, so to say, is the institutional apparatus, which allows and furthers the accumulation of capital through the enactment and enforcement of a homogeneous set of rules that govern and protect commercial activity within an emerging domestic market (Jaria i Manzano 2011: 92ff).

Technological capacities and geopolitical settings also explain why the state appears not only as the appropriate framework to govern the national market, but even to expand it through the establishment of colonial empires that provide larger spaces for capital accumulation, while upholding an institutional and legal infrastructure for unequal exchange with non-European peoples and territories (Hobson 2011). The ‘de’-colonisation process triggered after World War II, however, implies a major shift in the

role that the state exerts in relation with the global markets. The European states that had so far provided the social basis for the nation-state system gradually lose their respective functions as hosts of capital accumulation.

Markets detach from the state and grow global, projecting themselves as a world-system under the aegis of the United States (Fontana 2011). This evolution apparently causes the loss of harmony between the political infrastructure (the division of global political space in many dozens of nation-states) and the economic structure (global market). This alleged discrepancy allows on the one hand, developing informal and opaque structures of power, which accelerate capital accumulation based on ecologically unequal exchange. On the other hand, political and economic domination is maintained despite the legal veil of sovereign equality among the states. The Westphalian axiom of formal equality, however, is hardly able to hide the system's persisting imbalances and inequalities that shape an imperial constellation of states around the center of the capital accumulation process (Evans 2009: 43).

Hence, the state remains an essential building block for the net-like structure of power in which the global market unfolds (Clarkson & Wood 2009: 222). In other words, the interstate system is the fundamental piece of the economic infrastructure that supports the deployment of global networks, securing the flow of goods, services and capital exchange. From a legal perspective, the states' institutions warrant the reliability of transactions through regulation and enforcement. In terms of raw power, the threat and use of violence through the police and military forces ensure the maintenance of the global structures of domination, as well as the infrastructures that support the material flows and ecologically unequal exchange (Burdeau 1970: 185ff). In this vein, some (Western) states secure themselves space for development under advantageous conditions, thereby occupying the center and portraying themselves as the system's winners (Epiney 2001: 872).

Meanwhile, the remaining states compose the margins of the system, as instrumental structures of domination, entrusted with the role of social control in the system's periphery and the safeguard of the flow of resources towards the center. These global power structures are opaque and lack any accountability. Under international law, they prevail over democratic decisions taken in the political and legal framework of the nation-state, which ends up playing a role of servitude toward them. This assessment does not call in question the state's decisive role in the global power network. It emphasizes, however, the subservient position that it holds, especially with respect to the regulation of transnational trade and

investments (Barreda 2005), as well as the access to financial markets (Evans 2009: 46). From a constitutional perspective, it also situates the legitimacy of public authority increasingly far away from the democratic will of the citizenship. This subordination and lack of legitimacy is particularly painful in the periphery, where the terms of access to the global market structures is based on the unequal exchange of resources and the appropriation of their respective shares in the global common goods, such as the atmosphere and oceans (climate debt) (Conti 1996: 173ff). In fact, the international institutions of economic governance —chiefly, the Bretton Woods institutions (World Bank and the IMF) and the WTO— have a great share in the responsibility for the situation of financial dependency and resource drain that these states are in (Clarkson and Wood 2009: 161).

To wrap up, we start from the Western-liberal tradition of constitutionalism, to suggest developing a new pluralist regulatory paradigm for global governance, that acknowledges the profound inconsistencies of the global social metabolism and seeks to redress the presently unbalanced patterns of global exchange.

Vague and indeterminate as these concluding ideas admittedly are, they nevertheless differ substantially from the mainstream recipe, which consists in the mix of [1] market efficiency and discipline, [2] financial stability through public budget austerity, and [3] sustainable development as a paradigm for risk balancing.

Against this backdrop, our proposal contests this strategy by devising pluralist constitutional patterns of global governance that [1] go beyond mainstream market doctrine, integrating new parameters deriving from social metabolism and, especially, material flow analysis; [2] managing scarcity of resources and the boundaries of the ecological systems, and [3] Taking seriously sustainability by preventing, and not just balancing, systemic risks, avoiding irrational social and ecological output.

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