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# The reactive model of disaster regulation in international law and its shortcomings

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**Abstract**

This article presents a theoretical framework by which to understand how disasters are reconciled with a state's existing obligations under international law. This 'reactive' model of disaster regulation hinges on two regulatory techniques, 'disapplication' and 'exculpation', both of which involve a deviation from the ordinary application of a norm owing to the occurrence of a disaster or to measures adopted by a state in relation to it. It proceeds to outline the various doctrines and mechanisms across different subfields of international law, including international human rights law, investment law and trade law, which may operationalize these techniques in disaster situations. Finally, it argues that the applicability of certain disapplication and exculpation mechanisms to disasters relies on an anachronistic view of such disasters as rare and episodic occurrences beyond human control. This puts these mechanisms at odds with the central objectives of international disaster law and their underlying sociological and scientific premises, which emphasize the need for an 'adaptive' model of comprehensive and prevention-oriented disaster regulation. Accordingly, this analysis exposes the conceptual limitations of the reactive model for disaster regulation and explains and validates the inclination toward an adaptive model within international disaster law. It also indicates how mechanisms within the reactive model could be recalibrated to better regulate disasters.

**Keywords:** derogation; disasters; international disaster law; international human rights law; law of treaties

## 1. Introduction

As academic scholarship proliferates under the umbrella of International Disaster Law (IDL), it naturally prompts rumination as to what the phrase is being used to mean. It is commonly asserted, and correctly so, that there is no discrete branch of IDL.[1] The British Red Cross, for instance, insists on referring to 'international disaster laws'.[2] However, this proposition is not correct because the instruments of IDL, as yet, lack the normativity, depth or coherence of other so-called 'branches'.[3] It is also correct because no 'branch' has a 'legally meaningful existence' in international law.[4] No branch is truly

*This article builds on ideas first presented in an essay that won the IFRC International and Comparative Disaster Law Essay Contest in 2020. I am grateful to the anonymous peer reviewers for their comments. All errors are my own.

[1]See, e.g., M. Aronsson-Storrier and K. Da Costa, 'Regulating disasters? The role of international law in disaster prevention and management', (2017) 26 *Disaster Prevention and Management* 502, at 502; C. Clement, 'International Disaster Response Laws, Rules, and Principles: A Pragmatic Approach to Strengthening International Disaster Response Mechanisms', in D. Caron, M. Kelly and A. Telesetsky (eds.), *The International Law of Disaster Relief* (2014), 67, at 69.

[2]Cited in Clement, ibid., at 69.

[3]Aronsson-Storrier and Da Costa, *supra* note 1, at 502.

[4]J. Viñuales, 'Sources of International Investment Law: Conceptual Foundations of Unruly Practices', in S. Besson and J. d'Aspremont (eds.), *The Oxford Handbook on the Sources of International Law* (2017), 1069, at 1069–70. See also J. Viñuales, 'Cartographies imaginaires: Observations sur la portée juridique du concept de "régime special" en droit international', (2013) 140 *Journal du droit international (Clunet)* 405.

'self-contained';[5] the system of international law operates as an interconnected body of norms, with more general and foundational norms pervading each area of particularized regulation on subject matters such as disasters. As the International Law Commission (ILC) has recognized, a so-called 'branch' 'can receive … legally binding force … only by reference to (valid and binding) rules or principles *outside it*'.[6]

Necessarily, then, the birth and trajectory of IDL has mirrored this normative interdependence. IDL codification efforts since 2000 have yielded several soft law instruments governing state responses and co-ordination at every point along the 'disaster cycle',[7] from prevention and 'disaster risk reduction' (DRR) to response, recovery, and compensation. Chief among these instruments are the 2015 Sendai Framework,[8] and the ILC's 2016 Draft Articles on the Protection of Persons in the Event of Disasters,[9] the latter of which the ILC recommended to the UN General Assembly as the basis of a future treaty in the area.[10] Though heterogeneous in their content and scope, these instruments all subscribe to what can be labelled an 'adaptive' model of disaster regulation, in terms of their relationship to the greater system of international law: they seek to develop, adapt, and particularize the application of norms from other, more established subfields to disaster situations – and where necessary, to crystallize new norms. This has served the overriding objective to produce a more holistic body of law and fill the 'yawning gap' once suggested to exist at the heart of IDL.[11]

To this end, various norms and concepts from international human rights law (IHRL),[12] humanitarian law (IHL),[13] and trade law,[14] among others,[15] have been adapted and particularized to varying extents. For instance, Article 5 of the ILC Draft Articles confirms that persons affected

[5]See International Law Commission, *Report of the Study Group of the International Law Commission on the Fragmentation of International Law*, UN Doc. A/CN.4/L.682 (13 April 2006), para. 193 ('ILC Fragmentation Study'): '[T]he term "self-contained regime" is a misnomer. No legal regime is isolated from general international law. It is doubtful whether such isolation is even possible …'.

[6]Ibid., (emphasis in original).

[7]D. Farber, 'International Law and the Disaster Cycle', in Caron, Kelly and Telesetsky, *supra* note 1, at 7.

[8]United Nations Office for Disaster Risk Reduction, *Sendai Framework for Disaster Risk Reduction 2015–2030,* UN Doc. A/CONF.224/CRP.1 (18 March 2015), adopted in UNGA Res. 69/283, UN Doc. A/RES/69/283 (23 June 2015) ('Sendai Framework').

[9]International Law Commission, *Draft Articles on the Protection of Persons in the Event of Disasters,* UN Doc. A/71/10 (2016), Art. 3(a) ('ILC Draft Articles').

[10]Report of the Sixty-Eighth Session of the International Law Commission, Supplement No. 10 to UN Doc. A/71/10 (2016), para. 46. See also G. Bartolini, 'A universal treaty for disasters? Remarks on the International Law Commission's Draft Articles on the Protection of Persons in the Event of Disasters', (2017) 99 *International Review of the Red Cross* 1103.

[11]International Federation of the Red Cross, *World Disasters Report* (2000), 145. For a theoretical account of certain law-making techniques employed to transpose norms into IDL see S. Sivakumaran, 'Techniques in International Law-Making: Extrapolation, Analogy, Form and the Emergence of an International Law of Disaster Relief', (2018) 28 EJIL 1097.

[12]See, e.g., F. Zorzi Giustiniani et al. (eds.), *Routledge Handbook of Human Rights and Disasters* (2018); K. Cedervall Lauta, 'Human Rights and Natural Disasters', in S. Breau and K. Samuel (eds.), *Research Handbook on Disasters and International Law* (2016), 91; D. Cubie and M. Hesselman, 'Accountability for the Human Rights Implications of Natural Disasters', (2015) 33 *Netherlands Quarterly of Human Rights* 9.

[13]See, e.g., D. Cubie, 'Clarifying the "Acquis Humanitaire": A Transnational Legal Perspective on the Internalization of Humanitarian Norms', in Caron, Kelly and Telesetsky, *supra* note 1, at 338; C. Gribbin and I. Maiolo, 'Legal Framework Applicable to Humanitarian Actors Responding to Disasters in Weak and Fragile States', in ibid., at 139; C. Allan and T. O'Donnell, 'A Call to Alms?: Natural Disasters, R2P, Duties of Cooperation and Unchartered Consequences', (2012) 17 *Journal of Conflict and Security Law* 337.

[14]See, e.g, G. Adinolfi, 'Strengthening Resilience to Disasters through International Trade Law: The Role of WTO Agreements on Trade in Goods', (2021) 2 *Yearbook of International Disaster Law* 1; G. Adinolfi, *Natural Disasters and Trade Research: Study II – A legal mapping*, 2019, available at www.wto.org/english/tratop_e/devel_e/study2_sympnaturaldisaster29112019_e.pdf.

[15]For literature on the relationship between international environmental law and IDL see, e.g., J. Peel and D. Fisher (eds.), *The Role of International Environmental Law in Disaster Risk Reduction* (2016).

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by disasters are entitled to 'respect for and protection of their human rights in accordance with international law', with the reference to 'human rights' being to 'the whole of international human rights law'.[16] Similarly, the Sendai Framework includes 'promoting and protecting all human rights' among its guiding principles.[17] Through this iterative process of particularization has emerged the 'overarching umbrella' that characterizes IDL's present structure.[18]

Even so, these instruments do not capture the full extent of the relationship that other subfields of international law may have with disasters – the true scope of IDL, as it were. This 'adaptive' model to disaster regulation prevalent in all recent IDL initiatives exists alongside a 'reactive' model. The latter model encompasses those means, mechanisms, and techniques under international law by which other subfields treat disasters as exogenous events which justify or necessitate deviations from the ordinary application of legal norms on their subjects. The difference between the models is that, whereas norms and instruments embodying an adaptive model seek to reconcile norms with disaster situations, those embodying a reactive model seek to reconcile disasters with norms. In other words, adaptive regulation develops norms that *do* apply in disaster situations, while reactive regulation serves to identify those that do not. Together, these models comprise the current corpus of IDL, though the reactive model remains under-examined.

The focus of this article is to present and critique this reactive model for disaster regulation. Its contribution to the existing IDL literature is that it offers a single theoretical framework to bring together certain interfaces between international law and disasters (those embodying this reactive model) which each fall within the conceptual scope of IDL and may have been individually scrutinized as such,[19] but which have not been theorized from a systemic, cross-sectional perspective. This systemic view allows one to trace, historicize, and explain the evolution in disaster regulation toward the adaptive model characteristic of IDL today. In so doing, it addresses the 'core [epistemological] challenge' to 'achieve a more comprehensive account of IDL'.[20]

This article has four subsequent sections. Section 2 introduces the reactive model of disaster regulation, by which disasters are reconciled with a state's existing obligations under international law. It identifies two regulatory techniques that embody this reactive approach: 'disapplication' and 'exculpation'. Section 3 then identifies various doctrines and mechanisms through which these techniques have been operationalized, both within general international law and 'special treaty-regimes'.[21] It also draws on previous scholarship to identify doctrinal impediments within these mechanisms that may problematize their application to disasters.

On this basis, Section 4 then considers whether the techniques of disapplication and exculpation, and the reactive model overall, are conceptually appropriate for disaster regulation. It argues that certain disapplication and exculpation mechanisms are maladapted to regulate disasters because they rely on an anachronistic, long-delegitimized view of disasters as rare and episodic events beyond human control. This puts such mechanisms at odds with the core objectives of modern IDL, and the sociological and scientific premises on which they are based, which emphasize the need for human co-ordination and preventive regulation to counter the rising regularity and severity of disasters. Conversely, those mechanisms which can accommodate this modern

[16]ILC Draft Articles, *supra* note 9, Commentary to Art. 5, para. 7.

[17]Sendai Framework, *supra* note 8, para. 19(c).

[18]Aronsson-Storrier and da Costa, *supra* note 1, at 502.

[19]See, e.g., discussion of particular interfaces in E. Sommario, 'Derogation from Human Rights Treaties in Situations of Natural or Man-Made Disasters', in A. de Guttry, M. Gestri and G. Venturini (eds.), *International Disaster Response Law* (2012), 323 (on derogation under IHRL); L. Choukroune, 'Disasters and international trade and investment law – the state's regulatory autonomy between risk protection and exception justification', in Breau and Samuel, *supra* note 12, at 204 (touching on the disapplication of investment protection norms in disaster scenarios).

[20]Aronsson-Storrier and da Costa, *supra* note 1, at 502.

[21]This term was adopted by the ILC in its Fragmentation Study, *supra* note 5, para. 492 to refer to sets of interlinked treaties with some degree of independent conceptual and operational existence (e.g., WTO law and human rights law), but without assigning the legal status of 'self-contained regime'. See ibid., paras. 123–37.

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view of disasters and IDL's corresponding imperatives remain more readily applicable at a doctrinal level. In sum, this both exposes conceptual frailties within the reactive model of disaster regulation and explains IDL's inclination toward adaptive regulation. Section 5 discusses the implications of these findings for future research and policymaking in the field.

For the purposes of this article, 'disaster' is understood in line with the ILC Draft Articles[22] to mean 'a calamitous event or series of events resulting in widespread loss of life, great human suffering and distress, mass displacement, or large-scale material or environmental damage, thereby seriously disrupting the functioning of society'. It includes both sudden and slow-onset events, health-related events (including the COVID-19 pandemic), and both 'natural' and 'human-induced' events, given the 'porous border' between the two recognized in modern sociology.[23] However, it excludes armed conflicts, in which rules of international humanitarian law primarily apply,[24] and 'economic' events such as financial crises *per se*, mirroring the same distinction drawn across IDL instruments.[25] Nonetheless, this article does later analyse some of the investor-state dispute settlement (ISDS) jurisprudence arising out of such economic events (especially the 2001–2002 Argentine financial crisis) insofar as it implicated the same norms and mechanisms that are potentially invocable in disaster situations.

## 2. The reactive model of disaster regulation and its constituent techniques

This article introduces the notion of a 'reactive' model of disaster regulation in international law. As explained above, whereas the adaptive model is concerned with norms that *do* apply in relation to disasters and regulatory responses thereto, the reactive model concerns doctrines and mechanisms that govern whether and to what extent those norms do *not* apply. While these doctrines are strewn across different subfields, bear different names, and apply in different contexts, it is possible to distil the model into two distinct groups of doctrines and mechanisms, based on their functionally similar approaches to reconciling norm with disaster. This article describes each group as representing a 'technique' of disaster regulation, though use of this term does not imply that they were ever deliberately conceived as such in the development of international law.

The first technique involves 'disapplication' of an ordinarily applicable norm in relation to a disaster or a state's disaster-related measures. This refers to situations where a norm of international law which would otherwise bind a state is *deemed not to apply*, either unilaterally by the state concerned or during adjudication. The second involves 'exculpation' of a state from the consequences of acting incompatibly with a norm in circumstances of disaster. This refers to situations where a breach of a primary norm is *prima facie* established, but a state is excused from the ordinary consequences of such breach. Though this distinction is narrow and sometimes collapses in practice,[26] the two categories are mutually exclusive: a norm that is disapplied (evidently) does not apply, meaning that no consequences arise from acting incompatibly with it; and only if a

[22]ILC Draft Articles, *supra* note 9, Art. 3(a).

[23]J. Peel and D. Fisher, 'International Law at the Intersection of Environmental Protection and Disaster Risk Reduction', in Peel and Fisher, *supra* note 15, 1, at 15.

[24]ILC Draft Articles, *supra* note 9, Art. 18(2).

[25]Ibid., Commentary on Art. 3(a), para. 2: 'Subparagraph (a) defines the term "disaster" solely for the purposes of the draft articles. The definition has been delimited so as to properly capture the scope of the draft articles, as established in draft article 1, while not, for example, inadvertently also dealing with other serious events, such as political and economic crises, which may also undermine the functioning of society, but which are outside the scope of the draft articles.'

See also UNGA Res. 71/276, UN Doc. A/RES/71/276 (2017), endorsing the UNISDR's definition of a disaster as '[a] serious disruption of the functioning of a community or a society at any scale due to *hazardous events* interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts' (emphasis added).

[26]See the discussion in Section 3.2.1.2., *infra*, of the conflation of non-precluded measures clauses and the customary defence of necessity in certain ISDS jurisprudence.

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norm does apply (and thus has not been disapplied) can a state be exculpated from the consequences of breaching it.

Such a distinction between 'disapplication' and 'exculpation' has been commonly made, though not in these terms and not in specific relation to disasters, in various contexts. For instance, it has been articulated as a difference between the characterization of clauses in investment protection treaties as 'exemptions' or 'exceptions';[27] between 'scope limitation devices' and 'affirmative defences' for the purposes of the burden of proof in international adjudication;[28] and between 'justification' and 'excuse' in the context of how defences in the law of state responsibility operate theoretically.[29] Disapplication mechanisms are also said to operate as 'primary' norms (i.e., those 'defining conduct or obligations'[30]), whereas exculpation mechanisms are 'secondary' norms of state responsibility (i.e., 'concerned with determining the consequences of failure to fulfil obligations established by the primary rules'[31]).[32] These particular terms have thus been selected for their generality and descriptive convenience, though there are also legally significant differences between them, e.g., in respect of burdens of proof and interpretive approaches during adjudication.[33]

On this basis, the following section examines examples and modalities of the techniques of disapplication (Section 3.1) and exculpation (Section 3.2) across the breadth of international law, drawing on literature which critiques the applicability of each modality to modern-day disasters.

## 3. Disapplication and exculpation mechanisms across the breadth of international law

### *3.1 Disapplication mechanisms*

States are ordinarily bound to perform their obligations under international law in good faith (*pacta sunt servanda*).[34] However, this principle – this 'staccato statement'[35] – is not absolute and indefeasible. Certain mechanisms exist by which a state can, owing to extraordinary circumstances, 'disapply' a primary norm with the effect that it is not bound by the norm for a particular period.

'Disapplication' is given effect through mechanisms invocable under general international law (Section 3.1.1) and in special treaty-regimes (Section 3.1.2); or otherwise in the course of an international court or tribunal's process of interpreting a primary norm (Section 3.1.3).

[27]J. Viñuales, 'Seven Ways of Escaping a Rule: Of Exceptions and Their Avatars in International Law', in L. Bartels and F. Paddeu (eds.), *Exceptions in International Law* (2020), 65, at 65–6.

[28]C. Henckels, 'Scope Limitation or Affirmative Defence? The Purpose and Role of Investment Treaty Exception Clauses', in ibid., at 363.

[29]See, e.g., F. Paddeu, *Justification and Excuse in International Law* (2016).

[30]Viñuales,, *supra* note 27, at 66.

[31]Second Report on State Responsibility by Roberto Ago, Special Rapporteur, (1970) *Yearbook of the ILC*, Vol. II, 177 at 179, para. 11.

[32]Though the value of this distinction has been questioned, it remains in vogue. See, e.g., International Law Commission, First Report on State Responsibility by Special Rapporteur James Crawford, UN Doc. A/CN.4/490 (1998), at 6–7, paras. 12–18, in which Crawford notes that while the distinction has been maligned on the basis that 'secondary' rules are 'mere abstractions', that they overlook the possibility that particular substantive rules 'may generate their own specific secondary rules', and that the draft articles 'fail to apply the distinction consistently' (para. 14), it nonetheless serves a useful function as a consensus-building placeholder by which to avoid 'having to resolve a myriad of issues about the content and application of particular rules' (para. 16).

[33]Viñuales, *supra* note 27, at 80–2.

[34]Vienna Convention on the Law of Treaties, opened for signature 23 May 1969, 1155 UNTS 331 (entered into force 27 January 1980), Art. 26 ('VCLT'). It has been called the 'basis of all treaty law': G. Fitzmaurice, Second Report on the Law of Treaties, (1957) *Yearbook of the ILC*, Vol. II, 18 at 20, para. 6 (UN Doc. A/CN.4/107).

[35]M. Villiger, *Commentary to the 1969 Vienna Convention on the Law of Treaties* (2009), 363.

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### 3.1.1 Under general international law

Unlike customary international law, which by its nature is based on a consistent pattern of conduct, treaties are 'in permanent tension to the passing of time and changing circumstances',[36] and are thus susceptible to becoming 'dead letter' if and when circumstances radically change, e.g., in times of disaster.[37] In order to imbue treaties with some capacity to accommodate change without becoming obsolete, the Vienna Convention on the Law of Treaties (VCLT) codifies default rules, recognized as custom,[38] allowing for suspension and termination of treaties.

In the first instance, a state can suspend,[39] denounce or withdraw from,[40] a treaty at any time, if permitted by the treaty[41] or with consent of all parties. Furthermore, a state has the unilateral right, recognized in custom,[42] to suspend or terminate a treaty in extraordinary circumstances – potentially including disasters – which give rise to 'supervening impossibility of performance'[43] or a 'fundamental change of circumstances'.[44] Upon suspension, the state is released from its obligations under the treaty for the relevant period.[45]

These provisions are rarely invoked to disapply treaty norms, either generally or during disasters.[46] This may be a consequence of their restrictive wording and strict substantive criteria for enlivenment,[47] borne from a cautiousness not to allow these residual disapplication mechanisms to become 'talisman[s] for revising treaties'.[48] Instead, parties are encouraged to provide expressly in advance for denunciation or withdrawal, through 'exit clauses' and other flexibilities.[49]

However, these mechanisms are also poorly adapted to the reality of disasters and their impacts. For one, supervening impossibility of performance under Article 61 requires the 'permanent disappearance or destruction of an object indispensable for the execution of the treaty'.[50] The 'object' requirement, which is viewed to encompass physical and (perhaps) juridical objects,[51] does not extend to intangible institutional (e.g., financial, diplomatic, labour) resources that are typically affected in a disaster, especially one of a non-

[36]C. Binder, 'Stability and Change in Times of Fragmentation: The Limits of *Pacta Sunt Servanda* Revisited', (2012) 25 LJIL 909, at 910.

[37]A. Tzanakopoulos and S. Lekkas, '*Pacta sunt servanda* versus Flexibility in the Suspension and Termination of Treaties', in C. Tams and A. Tzanakopoulos (eds.), *Research Handbook on the Law of Treaties* (2014), 312, at 313. See also C. Tomuschat, 'Pacta sunt servanda', in A Fischer-Lescano et al. (eds.), *Frieden in Freiheit – Peace in Liberty – Paix en liberté: Festschrift für Michael Bothe zum 70. Geburtstag* (2008), 1047, at 1048.

[38]*Case Concerning the Gabčíkovo-Nagymaros Project (Hungary v. Slovakia)*, Judgment of 25 September 1997, [1997] ICJ Rep. 7, at 38, para. 46; at 62, para. 99, subject to the qualification that VCLT Arts. 60–62 reflect custom 'in many respects'; see also *Fisheries Jurisdiction Case (United Kingdom v. Iceland)*, Jurisdiction and Admissibility, Judgment of 2 February 1973, [1973] ICJ Rep. 3, at 18, para. 36 (acknowledging Art. 62 as custom); *Legal Consequences for States of the Continued Presence of South Africa in Namibia (South West Africa) notwithstanding Security Council Resolution 276 (1970)*, Advisory Opinion of 21 June 1971, [1971] ICJ Rep. 16, at 47, para. 94 (acknowledging Art. 60 as custom).

[39]VCLT, *supra* note 34, Arts. 57, 58.

[40]Ibid., Arts. 54–56.

[41]Ibid., Art. 42(2).

[42]*Gabčíkovo-Nagymaros Project*, *supra* note 38, at 38, para. 46; at 62, para. 99.

[43]VCLT, *supra* note 34, Art. 61.

[44]Ibid., Art. 62.

[45]Ibid., Arts. 70(1)(a), 72(1)(a).

[46]Binder, *supra* note 36, at 912–14; M. Shaw and C. Fournet, 'Article 62 1969 Convention: Fundamental Change of Circumstances', in O. Corten and P. Klein (eds.), *The Vienna Conventions on the Law of Treaties: A Commentary* (2011), 1411, at 1418–19. See, e.g., *Gabčíkovo-Nagymaros Project*, *supra* note 38, at 63–4, para. 103.

[47]Binder, ibid., at 913.

[48]H. Lauterpacht, *The Development of International Law by the International Court* (1982), 86.

[49]Tzanakopoulos and Lekkas, *supra* note 37, at 332.

[50]Binder, *supra* note 36, at 912.

[51]P. Bodeau-Livinec and J. Morgan-Foster, 'Article 61 1969 Convention: Supervening Impossibility of Performance', in Corten and Klein, *supra* note 46, 1382, at 1389. The ICJ did not decide on whether a legal regime could qualify in *Gabčíkovo-Nagymaros Project*, *supra* note 38, at 63–4, para. 103.

environmental character (e.g., a pandemic). In particular, the ICJ has expressly ruled out 'serious financial difficulties' from the scope of the condition.[52] Similarly, the requirement of 'permanency' may exclude the destruction of institutions or infrastructure which *could* be restored, albeit over time and at great cost, as occurs in many disasters.

The way these conditions are framed risks inconsistent and perverse results when applied to disasters. For instance, the complete and permanent drying up of an international watercourse because of drought would satisfy the 'object' requirement in respect of any treaty governing that watercourse.[53] Such treaties are easily reconcilable with Article 61 because they gravitate around one physical 'object' capable of destruction. Conversely, in recent years, Haiti has endured a 2010 earthquake that caused US$ 8 billion of damage to its infrastructure and economy (equivalent to 70% of its Gross Domestic Product at the time),[54] a 2016 hurricane causing damage equal to 32 per cent of its GDP,[55] and consistent periods of drought that devastated its food supply.[56] But none of these disasters, it seems, would have entitled it to suspend investment treaties with Germany, France, and the United Kingdom on Article 61 grounds. While each impaired its financial and institutional ability to afford the requisite level of treatment to foreign investors, the 'objects' indispensable to execution of those treaties – if conceived rather broadly and circularly as a functioning state apparatus with a legal, economic and regulatory environment capable of investment protection – remained in existence or only temporarily 'destroyed'. Perversely, the scope of the 'object' requirement suggests that only if the Haitian state apparatus had reached *total* collapse would its right to suspend investment treaties under Article 61 have enlivened.

Similarly, a 'fundamental' change under Article 62 requires a 'radical transformation'[57] of what must be performed under the treaty into 'something essentially different'.[58] Again, this would likely not capture an instance where a disaster (e.g., the 2010 Haitian earthquake) adversely affects a state's financial and technical capacity to perform an obligation for a particular period, but not the basic nature of the obligation itself. Furthermore, the requirement that the circumstances be 'not foreseen by the parties' risks becoming an insurmountable condition in modern times. As discussed in Section 4, it is the change in circumstances, not the disaster causing the change, which must be 'foreseen': in this way, the veritable mountain of climate change research indicating the increased likelihood and regularity of disasters renders it difficult for a state to argue that it has not foreseen such a change.

Accordingly, disapplication mechanisms under the VCLT are blunt instruments calibrated in order to prioritize treaty stability. This means they are unlikely to be successfully engaged in most disaster contexts.[59]

### 3.1.2 In special treaty-regimes

Apart from the law of treaties, there are also disapplication mechanisms, constructed differently but identical in effect, in IHRL (Section 3.1.2.1), and investment agreements (Section 3.1.2.2).

[52] *Gabčíkovo-Nagymaros Project*, *supra* note 38, at 63, para. 102.

[53] The ILC expressly proposed this hypothetical in its Commentary on then-Draft Art. 58, alongside the 'submergence of an island' or the 'destruction of a dam or hydro-electric installation': International Law Commission, Draft Articles on the Law of Treaties with Commentaries, (1966) *Yearbook of the ILC*, Vol. II, at 256, para. 2 (UN Doc. A/6309/Rev.1).

[54] World Bank Data, 'Haiti', available at data.worldbank.org/country/HT.

[55] Congressional Research Service, 'Haiti's Political and Economic Conditions', 5 March 2020, at 5, available at fas.org/sgp/crs/row/R45034.pdf.

[56] Ibid. See also European Civil Protection and Humanitarian Aid Operations, 'Haiti plagued by unprecedented drought', available at ec.europa.eu/echo/blog/haiti-plagued-unprecedented-drought_en.

[57] *Fisheries Jurisdiction Case*, *supra* note 38, at 63, para. 36.

[58] Ibid., at 65, para. 43.

[59] Binder, *supra* note 36, at 913–14.

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*3.1.2.1 Derogation in IHRL.* Certain international and regional human rights treaties allow a state to 'derogate' from (i.e., suspend) *specified* obligations under the treaty.[60] This qualifies as a 'disapplication' mechanism because it results in the norm not applying for the relevant period, rather than a state avoiding responsibility for acting incompatibly with it.[61] A state's right to derogate represents a corollary of sovereignty, through which states are afforded a 'safety valve' to tailor certain human rights standards in an extreme situation of emergency.[62] Indeed, the 2016 ILC Draft Articles preserve a state's right to derogate, with the commentary to Draft Article 5 noting that the provision 'incorporates both the rights and limitations that exist in the sphere of international human rights law … [and] contemplates an affected [s]tate's right of suspension or derogation where recognised under existing international agreements'.[63]

Derogation clauses in international and regional treaties are formulated similarly.[64] The clause in the International Covenant on Civil and Political Rights (ICCPR), for instance, may be invoked 'in times of public emergency which threaten the life of the nation',[65] a threshold within which severe natural disasters have been regarded to fall.[66] The power to derogate is subject to certain limitations, including a carve-out of certain non-derogable rights, a proportionality requirement that derogation must go no further than 'strictly required by the exigencies of the situation' in terms of duration, geographical coverage, material scope, and measures adopted,[67] and requirements of initial proclamation and ongoing reporting.[68] In this way, they are 'inherently temporary' and 'follow the very concept of a state of emergency'.[69]

Historically, derogation has rarely formed part of a state's disaster response. Sommario identified just five states up to 2018 that invoked ICCPR Article 4 in relation to disasters.[70] However, this must be qualified in two respects. First, there has been a relative spike in state practice of derogation during the COVID-19 pandemic. Since the WHO's initial declaration of a pandemic on 11 March 2020,[71] 32 states have derogated at some point from certain rights in the ICCPR,

[60]*International Covenant on Civil and Political Rights*, opened for signature 16 December 1966, 999 UNTS 171 (entered into force 23 March 1976) Art. 4 ('ICCPR'); *Convention for the Protection of Human Rights and Fundamental Freedoms*, opened for signature 4 November 1950, 213 UNTS 221 (entered into force 3 September 1953) Art. 15 ('ECHR'); *American Convention on Human Rights*, opened for signature 22 November 1969, 1144 UNTS 123 (entered into force 18 July 1978) Art. 27 ('ACHR').

[61]The ICJ declined to decide whether the presence of a derogation clause in a human rights treaty left room for a state to also invoke the customary plea of necessity (an exculpation mechanism) in order to avoid the consequences of breaching a norm from which derogation was possible. An answer in the affirmative would have confirmed the characterization of derogation clauses as disapplication mechanisms which operate at a different stage to customary defences: *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*, Advisory Opinion of 9 July 2004, [2004] ICJ Rep. 136, at 196, para. 140.

[62]G. Neuman, 'Constrained Derogation in Positive Human Rights Regimes', in E. Criddle (ed.), *Human Rights in Emergencies* (2016), 15, at 21.

[63]ILC Draft Articles, *supra* note 9, Commentary to Art. 5, para. 7.

[64]See ICCPR, *supra* note 60, Art. 4(1); ECHR, *supra* note 60, Art. 15(1); ACHR, *supra* note 60, Art. 27(1).

[65]ICCPR, ibid., Art. 4(1).

[66]Joseph, Schultz and Castan propose that 'a severe natural disaster, such as a major flood or earthquake' would meet the threshold of public emergency under Art. 4 ICCPR: S. Joseph, J. Schultz and M. Castan, *The International Covenant on Civil and Political Rights: Cases, Materials and Commentary* (2013), 911. See also E. Sommario, 'Limitation and Derogation Provisions in International Human Rights Law Treaties and Their Use in Disaster Settings', in Giustiniani et al., *supra* note 12, at 98, at 106; E. Sommario, 'Derogation from Human Rights Treaties in Situations of Natural or Man-Made Disasters', in de Guttry, Gestri and Venturini, *supra* note 19, at 323.

[67]Human Rights Committee, *General Comment No. 29: States of Emergency* (article 4), UN Doc. CCPR/C/21/Rev.1/Add.11 (2001), para. 4.

[68]See ICCPR, *supra* note 60, Art. 4; ECHR, *supra* note 60, Art. 15; ACHR, *supra* note 60, Art. 27.

[69]Viñuales,, *supra* note 27, at 74.

[70]Sommario (2018), *supra* note 66, at 111–12.

[71]Current as of 11 May 2021.

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ECHR, and/or ACHR[72] – typically the freedoms of movement, assembly, and association – in order to implement quarantine and social distancing measures.[73] But even then, this represents a mere fraction of those states that have implemented measures requiring derogation without undergoing the mandated notification process.[74]

Secondly, this historical scarcity is not necessarily explained by any doctrinal disconnect between derogation clauses and the reality of disasters. To the contrary, notwithstanding more general critiques of the 'problematic design and operation of derogation clauses',[75] derogation clauses are well-adapted to capture disasters in principle, given their focus on the 'magnitude and effects of the emergency, irrespective of its nature or origin'.[76] Indeed, the requisite threshold even favours vulnerable states who may find it easier to claim the 'life of the nation' has been threatened by a disaster.[77]

Rather, other compelling explanations exist for this scarcity. For one, political scientists have attributed it to a leniency among states toward failures to derogate, and a corresponding presumption that derogations are done in good faith and not as a 'veil for gross abuses of human rights'.[78] Evidencing this claim, no human rights treaty body has ever examined the legality of a derogation made in disaster response.[79] Secondly, states can rely during disasters on in-built limitations within particular human rights provisions, which do not require official proclamation, instead of their right of derogation. Given the paucity of derogations during the COVID-19 pandemic relative to the ubiquity of quarantine and social distancing arrangements, most states appear to rely on the 'public health' exception built into the freedoms of movement, assembly, and association.[80] Indeed, Sommario argues that because of the flexibility provided by these limitations, formal derogation is rarely necessary in disaster response.[81]

In sum, despite the relatively frequent state practice of derogation in general, this avenue for disapplication has rarely been employed in relation to disasters, though prevailing academic sentiment does not view this as a consequence of doctrinal unsuitability.

*3.1.2.2 'Non-precluded measures' clauses in investment agreements.* Disapplication mechanisms also feature in international investment law, though unlike derogation under IHRL, they typically operate in an adjudication context, and retrospectively effect a disapplication. Certain international investment agreements (IIAs) contain 'non-precluded measures' (NPM) or 'carve-out' clauses,[82] which permit a state to 'lawfully take action directed at a particular regulatory objective

[72]This includes ten from the ECHR, 15 from the ACHR, and seven additional states not covered by regional treaties from the ICCPR. For all derogation notices, see Council of Europe, Convention for the Protection of Human Rights and Fundamental Freedoms (ETS No. 5), Notifications under article 15 of the Convention in the context of the COVID-19 pandemic, available at www.coe.int/en/web/conventions/full-list/-/conventions/webContent/62111354; Organization of American States, 'Recent Suspensions of Guarantees regarding Multilateral Treaties', available at www.oas.org/en/sla/dil/inter_american_treaties_suspension_guarantees.asp; Depositary Notifications (CNs) by the Secretary-General (Search: Treaty Reference IV-4), available at treaties.un.org/Pages/CNs.aspx?cnTab=tab2&clang=_en.

[73]N. Coghlan, 'Dissecting Covid-19 Derogations', *Verfassungsblog*, 5 May 2020, available at verfassungsblog.de/dissecting-covid-19-derogations/.

[74]L. Helfer, 'Rethinking Derogations from Human Rights Treaties', (2021) 115 AJIL 21, at 24 (and citations therein).

[75]Ibid., at 31 et seq.

[76]Sommario (2012), *supra* note 66, at 328.

[77]Ibid., at 333.

[78]Joseph, Schultz and Castan, *supra* note 66, at 923; see also E. Hafner-Burton, L. Helfer and C. Fariss, 'Emergency and Escape: Explaining Derogations from Human Rights Treaties', (2011) 65 *International Organization* 673, at 703 (a 2001 study into historical state practice of derogation).

[79]Sommario (2018), *supra* note 66, at 112.

[80]ICCPR, *supra* note 60, Arts. 12(3), 21, 22(2). See also A. Spadaro, 'COVID-19: Testing the Limits of Human Rights', (2020) 11 *European Journal of Risk Regulation* 317, at 321–2.

[81]Sommario (2018), *supra* note 66, at 112.

[82]See, e.g., Canada Model BIT (2004) Art. 10(4); *Comprehensive Trade and Economic Agreement between Canada and the European Union*, signed 30 October 2016 (provisionally entered into force 21 September 2017), Art. 28.3(2); *Agreement between Australia and the Oriental Republic of Uruguay on the Promotion and Protection of Investments*, signed 5 April 2019 (not yet in force), Art. 15(2)(b) ('Australia-Uruguay BIT').

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... that might otherwise be inconsistent with its substantive treaty obligations toward foreign investors'.[83] A well-litigated example is Article XI of the US-Argentina Bilateral Investment Treaty, which provides that the treaty 'shall not preclude the application by either Party of measures necessary for the maintenance of public order ... or the Protection of its own essential security interests'.[84]

There is disagreement over whether NPM clauses operate by limiting the scope of substantive obligations in a treaty, such that measures falling within the clause are not regulated by the treaty and are beyond a tribunal's jurisdiction ('scope limitation'), or by providing an affirmative defence to justify conduct that would otherwise be prohibited by the treaty.[85] Generally, this depends on the 'specific wording [of the treaty] or on an explicit formulation'.[86] However, whereas most jurisprudence on Article XI above has treated it as an affirmative defence,[87] this article follows the strident criticism of this interpretation, which argues in favour of treating NPM clauses (including Article XI) as disapplication mechanisms subject to specific language to the contrary. This is a more persuasive account of the scope of NPM clauses, which typically neither refer to, nor purport to displace or overlap with, customary defences.[88]

A conceptual difference from derogation and VCLT grounds for suspension is that disapplication under NPM clauses arises not out of a disaster itself, but out of measures taken by a state in relation to it. Accordingly, the doctrinal suitability of NPM clauses for disaster regulation depends on whether and which disaster-related *measures* are captured. The only salient examination of this issue so far occurred in the ISDS proceedings of *Devas* v. *India* and *Deutsche Telekom* v. *India*.[89] These proceedings arose out of the Indian government's decision in 2011 to cancel an agreement for the lease of two satellites. India argued that the decision served to protect an 'essential security interest' for the purposes of the NPM clauses at issue. In particular, it argued that it made the decision in order to preserve the band of electromagnetic spectrum in which the satellites functioned for military operations, but also for other 'societal needs' including services for 'disaster management', 'emergency communication' and 'dissemination of disaster warnings'.[90] However, both tribunals dismissed the portion of India's justification based on disaster management considerations, taking the view that '"societal needs" such as ... disaster management' could not be understood as essential security interests 'without distorting the natural meaning

[83]Henckels, *supra* note 28, at 363. Similar clauses exist to similar effect in trade agreements, but these are not considered for present purposes: *Marrakesh Agreement Establishing the World Trade Organisation,* opened for signature 15 April 1994, 1867 UNTS 3 (entered into force 1 January 1995) annex 1A ('General Agreement on Tariffs and Trade 1994') Arts. XI(2)(a), XXI(b)(iii) ('GATT 1994'). For discussion of WTO jurisprudence concerning the application of these clauses in a post-disaster context see G. Adinolfi, 'International Economic Law (2018)', (2020) 1 *Yearbook of International Disaster Law* 426.

[84]*Treaty Between United States of America and the Argentine Republic Concerning the Reciprocal Encouragement and Protection of Investment*, signed 14 November 1991 (entered into force 20 October 1994), Art. XI.

[85]See Henckels, *supra* note 28.

[86]Viñuales, *supra* note 27, at 69.

[87]See *CMS Gas Transmission Company v. Argentine Republic (Award)* (ICSID Arbitral Tribunal, Case No. ARB/01/08, 12 May 2005) paras. 353–356; *Enron Corporation Ponderosa Assets L.P. v. Argentine Republic* (*Award*) (ICSID Arbitral Tribunal, Case No. ARB/01/3, 22 May 2007) paras. 333–334; *Sempra Energy International v. Argentine Republic* (*Award*) (ICSID Arbitral Tribunal, Case No. ARB/02/16, 28 September 2007) para. 344.

[88]Henckels, *supra* note 28; J. Kurtz, 'Adjudging the Exceptional at International Law: Security, Public Order and Financial Crisis', (2010) 59 ICLQ 325; *CMS Gas Transmission Company v. Argentine Republic (Decision on Annulment)* (ICSID Ad Hoc Committee, Case No. ARB/01/08, 25 September 2007) para. 129 ('*CMS Annulment Decision*'). See also D. Desierto, 'Necessity and "Supplementary Means of Interpretation" for Non-Precluded Measures in Bilateral Investment Treaties', (2010) 31 *University of Pennsylvania Journal of International Law* 827.

[89]*CC/Devas (Mauritius) Ltd., Devas Employees Mauritius Private Limited and Telecom Devas Mauritius Limited v. India*, PCA Case No. 2013-09, Award on Jurisdiction and Merits, 25 July 2016; *Deutsche Telekom v. India*, PCA Case No. 2014-10, Interim Award, 13 December 2017. See generally R. Kabra, 'Return of the Inconsistent Application of the "Essential Security Interest" Clause in Investment Treaty Arbitration: *CC/Devas v India and Deutsche Telekom v India*', (2019) 34(3) *ICSID Review* 723.

[90]*Devas*, ibid., para. 360; *Deutsche Telekom*, ibid., para. 260.

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of [that] term'.[91] On that basis, it appears that, at least on the view of two ISDS tribunals, DRR measures may lack the criticality and/or requisite nexus to state security to enliven an NPM clause which refers to the 'protection of essential security interests'.

This reasoning reveals a miscalibration between the scope of NPM clauses and IDL's core imperative of prevention. Indeed, the ILC Draft Articles specifically identify preventive measures of the kind rejected in *Devas* and *Deutsche Telekom* (e.g., early warning systems, monitoring mechanisms, community-level preparedness and education, and contingency planning) as critical components of a state's DRR policy.[92] Nonetheless, future ISDS tribunals with a greater sensitivity to IDL and its concerns may regard DRR measures as serving 'essential security interests', or at least as falling within the scope of a more expansively formulated clause which extends (for instance) to measures 'necessary to protect human, animal or plant life or health'.[93] But even once this hurdle has been overcome, a tribunal may reject reliance on the clause for want of proportionality or necessity.[94]

### 3.1.3 Flexible interpretation of primary norms

Finally, a primary norm can be disapplied in times of disaster through a process of flexible interpretation of that norm by an international court or tribunal.

The key difference between this avenue for disapplication and derogation under IHRL is that the former cannot be invoked unilaterally or contemporaneously, whereas the latter can. Instead, flexible interpretation is undertaken during adjudication by an international court or tribunal. Moreover, the difference between this avenue and treaty NPM clauses in investment agreements is that the disapplication here occurs through interpretation of the primary norm, whereas the latter involves a disapplication of the primary norm effected by a separate and express carve-out provision.

Flexible interpretation may not be possible where the material, temporal, personal, and geographical scope of a norm is manifest. But where a norm bears some degree of generality, then a court may employ various techniques in order to qualify or dilute its scope, with a view to honouring a state's right to regulate in situations of disaster. As Viñuales notes:

> ... [H]uman rights, investment standards and trade disciplines are often interpreted in a manner that introduces reasonable restrictions of the scope of a provision to allow for legitimate governmental action.[95]

One technique relevant generally in international adjudication is a (peculiar) application of the doctrine of *lex specialis*. The doctrine has at times been adopted not in order to resolve a conflict of norms, but *qua* 'articulation device'[96] – i.e., use of a specific norm to tailor the application of a more general norm to a unique situation of disaster.[97] Used in this manner, the doctrine is capable

[91] *Deutsche Telekom*, ibid., para. 281. See a similar statement in *Devas*, ibid., para. 360.

[92] ILC Draft Articles, *supra* note 9, Commentary to Art. 9, para. 18.

[93] See, e.g., Australia-Uruguay BIT (2019), *supra* note 82, Art. 15(1)(a).

[94] For a discussion of these decisions see Kurtz, *supra* note 88.

[95] Viñuales, *supra* note 27, at 85.

[96] Ibid., at 69.

[97] However, if one takes a precise, limited view of *lex specialis* purely as a conflict of norms rule that resolves direct inconsistency between two norms to the extent of the inconsistency, then this technique might better be characterized as an expression of systemic integration, whereby a broad norm is interpreted harmoniously with other norms in order to *avoid* inconsistency. See J. Zrilic, *The Protection of Foreign Investment in Times of Armed Conflict* (2019), 186; V. Todeschini, 'The ICCPR in Armed Conflict: An Appraisal of the Human Rights Committee's Engagement with International Humanitarian Law', (2017) 35 *Nordic Journal of Human Rights* 203; L. Hill-Cawthorne, 'Just Another Case of Treaty Interpretation? Reconciling Humanitarian Law and Human Rights Law in the ICJ', in M. Andenas and E. Bjorge (eds.), *A Farewell to Fragmentation: Reassertion and Convergence in International Law* (2015), 272; A. Orakhelashvili, 'The Interaction between Human Rights and Humanitarian Law: Fragmentation, Conflict, Parallelism, or Convergence', (2008) 19 EJIL 161.

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of qualifying, diminishing, nullifying, or perhaps even enhancing the application of more general norms in time of disaster.[98]

However, the dearth of specific and binding norms governing disasters renders the employment of such a technique a remote prospect presently – at least, until the conversion of the ILC Draft Articles into treaty form. In that eventuality, it may be that, for instance, the specific DRR obligation in Article 9 of the ILC Draft Articles is read as a component of a state's duty to take reasonable measures to prevent transboundary environmental harm. More generally, too, IDL norms requiring state action in DRR or disaster response may produce 'normative conflicts' with norms in other subfields constraining such action (e.g., investment protections or non-discriminatory trade obligations) and necessitate the use of ordinary conflicts rules, potentially resulting in disapplication of the other norm.[99]

There are also other techniques specific to special treaty-regimes. For one, the 'margin of appreciation' doctrine, developed in European human rights jurisprudence and subsequently adopted by other human rights bodies,[100] is an approach for interpreting rights which defers to some extent to the factual conclusions drawn by national authorities as to the necessity of an impugned restriction because of their 'direct and continuous contact with the vital forces of their countries'.[101]

Moreover, the fair and equitable treatment standard in investment agreements, especially its 'legitimate expectations' component, is often interpreted in light of a state's right to regulate.[102] Similarly, the statutory guarantee against uncompensated expropriations is qualified by the 'police powers' doctrine, which precludes certain regulatory acts undertaken in aid of legitimate public objectives from being characterized as 'expropriations'.[103]

Adaptive IDL instruments, once crystallized into hard law or perhaps even otherwise,[104] may offer a basis to invoke these disapplication doctrines. For instance, implementation of DRR measures enumerated in the ILC's Commentary to Article 9 – e.g., 'land-use controls, construction standards, ecosystems management, drainage systems . . . ' – may qualify as legitimate regulation in the public interest and enliven the police powers doctrine.

[98]See *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion of 8 July 1996, [1996] ICJ Rep. 226, at 240, para. 25, cited in *Israeli Wall Advisory Opinion*, *supra* note 61, at 178, para. 105.

[99]But see an analogous discussion of the potential difficulties in resolving normative conflicts between IEL and investment law norms in favour of the former in J. Viñuales, 'Foreign Investment and the Environment in International Law: An Ambiguous Relationship', (2009) 80 BYIL 244, at 288–302.

[100]See Y. Arai-Takahashi, *The Margin of Appreciation Doctrine and the Principle of Proportionality in the Jurisprudence of the ECHR* (2002); M. Hutchinson, 'The Margin of Appreciation Doctrine in the European Court of Human Rights', (1999) 48 ICLQ 638.

[101]See, e.g., *Handyside v. The United Kingdom*, Judgment of 7 December 1976, [1976] ECHR 5, para. 48.

[102]See, e.g., *International Thunderbird Gaming Corporation v. The United Mexican States (Award)* (UNCITRAL Arbitral Tribunal, 26 January 2006) paras. 147, 196; *Total S.A. v. Argentine Republic (Decision on Liability)* (ICSID Arbitral Tribunal, Case No. ARB/04/01, 27 December 2010) para. 119.

[103]See, e.g., *Methanex Corporation v. United States of America (Award)* (UNCITRAL Arbitral Tribunal, 3 August 2005), Part IV, Ch. D, para. 7; *Saluka Investments B.V. v. The Czech Republic (Partial Award)* (UNCITRAL Arbitral Tribunal, 17 March 2006) para. 262; *Chemtura Corporation (formerly Crompton Corporation) v. Government of Canada (Award)* (UNCITRAL Arbitral Tribunal, PCA Case No. 2008-01, 2 August 2010) para. 266. The doctrine has generally been raised as a defence (i.e., exculpation mechanism) in investment arbitration, but this may not be conceptually correct: see J. Viñuales, 'Sovereignty in Foreign Investment Law', in Z. Douglas, J. Pauwelyn and J. Viñuales (eds.), *The Foundations of International Investment Law: Bringing Theory into Practice* (2014), 317, at 326–44.

[104]In this regard see Viñuales' explanation of 'legitimacy conflicts' (referring to circumstances where a state enacts a measure in service of a public objective that is recognized under international law, e.g., in soft law instruments such as the ILC Draft Articles, but not enshrined as a binding obligation, and then seeks in adjudication to circumvent the application of a binding norm (e.g., a substantive protection in an investment agreement) in respect of the impugned measure) in J. Viñuales, *supra* note 99, at 302–24.

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### 3.2 Exculpation mechanisms

The above section has explained that various disapplication mechanisms exist –though some are seldom engaged – by which ordinary norms can be deemed not to apply either during a disaster or to certain disaster-related measures. But if a norm does continue to apply, there are also various mechanisms by which a state can exculpate themselves from the consequences of acting incompatibly with that norm in relation to a disaster. These may arise in the form of customary defences (Section 3.2.1) and treaty exceptions (Section 3.2.2), both of which presuppose some inconsistency with a primary norm.

To be sure, there has been some conflation of the two techniques in practice, especially in the context of NPM clauses whose manner of operation can either be viewed as scope limitation device or as affirmative defence.[105] Indeed, some exculpation mechanisms were even designed as *alternatives* to disapplication mechanisms; the 'legalization' of defences such as *force majeure* and necessity was intended to accommodate subsequent events and changes without endangering the stability of an entire treaty by necessitating suspension.[106]

#### 3.2.1 Under general international law

Under general international law, there are six 'circumstances precluding wrongfulness' codified in the ILC Articles on State Responsibility, of which two – *force majeure* (Section 3.2.1.1) and necessity (Section 3.2.1.2) – are especially relevant in time of disaster. Despite some academic disagreement as to whether these mechanisms operate by rendering impugned conduct lawful (as 'justification') or by excusing unlawful conduct (as 'excuse'),[107] the dominant state practice is to invoke these circumstances as affirmative defences in adjudication, after breach of a primary norm has been established.[108] The term 'exculpation' has been deliberately chosen as a descriptor without prejudice to these competing characterizations of 'justification' and 'excuse'.

*3.2.1.1 Force majeure.* The defence of *force majeure*, embodied in Article 23 of the ILC Articles on State Responsibility,[109] and reflecting both custom and a general principle of law,[110] is available to states that have failed to comply with an international obligation in the event of an 'irresistible force or unforeseen event' beyond their control, which renders performance of the obligation 'materially impossible in the circumstances'.[111] It is suggested to have 'deep roots' in human thinking about morality and responsibility,[112] and represents a quintessential expression of the (long debunked) belief that disasters are events beyond human control. Reflecting such a view, Argentine jurist Carlos Calvo's definition of *force majeure* was as 'an accident that the vigilance and work of man cannot prevent or impede'.[113]

Though largely invoked in the past by foreign investors in times of political insecurity or war,[114] the requisite 'unforeseen event' can, in theory, either be natural *or* anthropogenic.[115] A rare

[105]See Henckels, *supra* note 28. See also Tzanakopoulos and Lekkas, *supra* note 37, at 326–7, who observe that treaty suspension and customary defences can have identical effects, but remain functionally distinguishable, since defences apply 'only after all the constituent requirements of the obligation have been found to exist, and there has been a breach of that obligation'.

[106]Binder, *supra* note 36, at 910.

[107]See, e.g., Paddeu, *supra* note 29.

[108]Viñuales, *supra* note 27, at 76; *CMS Annulment Decision*, *supra* note 88, para. 132.

[109]*Articles on the Responsibility of States for Internationally Wrongful Acts*, Supplement No. 10, UN Doc. A/56/10, Ch. IV.E. (November 2001) ('ARS'), Art. 23.

[110]Paddeu, *supra* note 29, at 285.

[111]See S. Szurek, 'Circumstances Precluding Wrongfulness in the ILC Articles on State Responsibility: Force Majeure', in J. Crawford, A. Pellet and S. Olleson (eds.), *The Law of State Responsibility* (2010), 475.

[112]Paddeu, *supra* note 29, at 285.

[113]C. Calvo, *Dictionnaire de droit international public et privé* (1885), 342, cited in F. Paddeu, 'A Genealogy of *Force Majeure* in International Law', (2012) 82 BYIL 381, at 422.

[114]See Paddeu, *supra* note 29, at 289–94 and cases discussed therein.

[115]ARS, *supra* note 109, Commentary to Art. 23, para. 3; Paddeu, *supra* note 113, at 394.

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invocation in response to disasters occurred in 1887, when it was successfully pleaded by the Venezuelan government before a French-Venezuelan Mixed Claims Commission to excuse its responsibility for property damage, and a resulting suspension of operations, suffered by a French construction contractor because of floods, fires and earthquakes, among other things.[116]

The doctrine has at times been criticized for providing a *carte blanche* to states to breach their international obligations – a 'lawless space where everything goes'.[117] Rougier suggested as early as 1903, albeit in the context of civil wars, that the logic of absolute non-responsibility behind *force majeure* could not be accepted, at least not insofar as it would permit a state to excuse its conduct for an indefinite period *after* an unforeseen event has occurred.[118] Applying this view to disasters, a state may justifiably evade responsibility for damage to an investment caused directly by an earthquake, but not automatically in respect of every subsequent measure it enacts as part of disaster response.

In this way, the COVID-19 pandemic is a useful illustration of the extent of *force majeure*'s relevance to modern disasters. As Paddeu and Jephcott have observed,[119] while quarantine and social distancing measures may well adversely affect foreign investments, it may be difficult for states to rely on *force majeure* to avoid the consequences of failing to perform international obligations owed in respect of such investments. Two of its conditions are particularly vexing. First, states affected by the virus after it was declared a pandemic could hardly rely on the proposition that the triggering event was 'an unforeseen event'. Nor would it qualify as an 'irresistible force', in the sense of an 'element of constraint which the state was unable to avoid or oppose by its own means',[120] if a court or tribunal took the view that the virus could have been prevented by more timely border closures or prudent social distancing measures. Conversely, given mathematical models which suggest that measures such as contact tracing are ineffective in controlling the virus in light of its asymptomatic transmission, the opposite conclusion may be just as forthcoming.[121] Secondly, the requirement of 'material impossibility' of performance, if understood to require *absolute* impossibility,[122] may not be easily satisfied if one takes the position that states could, albeit with considerable cost to human life, continue to operate unrestricted, and that these measures are technically voluntary.

Accordingly, *force majeure* appears a blunt and unwieldy instrument for disaster regulation. As Section 4 will argue, this doctrinal unsuitability is a result of its reliance on an anachronistic sociological view of disasters.

*3.2.1.2 Necessity.* Necessity is also available as a customary defence where an act not in conformity with an international obligation is the 'only way for [a] State to safeguard an essential interest against a grave and imminent peril'.[123] It is subject to the conditions that it must not 'seriously impair an essential interest' of the state(s) to which the obligation is owed or the international community as a whole,[124] and that it cannot be invoked if the obligation itself excludes its availability, or if the state has contributed to the situation of necessity.[125]

[116]*French Company of Venezuelan Railroads (France v. Venezuela)* (1903) 10 RIAA 285, at 316.

[117]Paddeu, *supra* note 113, at 493.

[118]A. Rougier, *Les guerres civiles et le droit des gens* (1903), 473, cited in Paddeu, *supra* note 113, at 414.

[119]F. Paddeu and F. Jephcott, 'COVID-19 and Defences in the Law of State Responsibility: Part I', *EJIL:Talk!,* 17 March 2020, available at www.ejiltalk.org/covid-19-and-defences-in-the-law-of-state-responsibility-part-i/.

[120]ARS, *supra* note 109, Commentary to Art. 23, para. 2.

[121]Paddeu and Jephcott, *supra* note 119.

[122]*Rainbow Warrior (New Zealand v. France)* (1990) 20 RIAA 215, para. 77. Cf. J. Crawford, *State Responsibility: The General Part* (2013), 299.

[123]ARS, *supra* note 109, Art. 25(1)(a); confirmed as custom in *Israeli Wall Advisory Opinion*, *supra* note 61, at 195, para. 140. See also A. Bjorklund, 'Emergency Exceptions: State of Necessity and "Force Majeure"', in P. Muchlinski, F. Ortino and C. Schreuer (eds.), *The Oxford Handbook of International Investment Law* (2008), 459.

[124]ARS, ibid., Art. 25(1)(b).

[125]Ibid., Arts. 25(2)(a), (b).

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Again, there is some inconsistency in the jurisprudence as to how the customary plea of necessity interacts with treaty NPM clauses.[126] Views diverge as to whether such clauses import,[127] displace as *lex specialis*,[128] or apply independently of,[129] the customary standard.[130] This may depend on one's approach to the anterior question of how the treaty clause operates; for instance, Henckels and Kurtz compellingly argue that treaty clauses, when understood properly as scope limitation clauses operating at the jurisdiction stage, are applied independently of the customary defence of necessity.[131]

Disasters are potentially captured by the defence, though two factors render this contestable in any disaster scenario. For one, there is significant variability in its application, across ISDS tribunals at least; the 2001–2002 Argentine financial crisis (though not a 'disaster' *per se*) was at once found to constitute,[132] and not constitute,[133] a 'grave and imminent peril', and to threaten,[134] and not threaten,[135] an 'essential interest of the State'.[136] Moreover, the stringency of its conditions – particularly four – is problematic. First, the 'essential interest' condition prompts the same concerns raised earlier in relation to NPM clauses. Based on the reasoning in *Devas* and *Deutsche Telekom*, the requisite essentiality of the interest being protected may cover measures adopted in the throes of a severe disaster, the impacts of which are already manifest, but not DRR measures adopted in advance, undermining the emphasis within IDL scholarship on prevention.

Secondly, the requirement of 'grave and imminent peril' sets a high threshold for disasters to surmount. Paddeu and Jephcott suggest that the COVID-19 pandemic, given its significant duration, infection and mortality rate, and cost to human life, amounts to a 'grave and imminent peril'.[137] However, other disasters with localized impacts (e.g., mudslides affecting one town) may not be sufficiently grave to imperil an interest of the state as a whole; and long-term, climate change-induced disaster impacts such as desertification and rising sea levels may not pose a sufficiently 'imminent' threat at any one point in time, especially in light of the peculiar difficulties in producing scientific evidence to substantiate imminence in cases of environmental harm.[138] The requirement of imminence would also seem to preclude a plea of necessity in respect of preventive measures of the kind encouraged within IDL.

A third, potentially insuperable hurdle is the requirement that an impugned measure be the 'only way' to safeguard a state's essential interest from a disaster. In relation to the COVID-19 pandemic, it may be extremely difficult to establish to a court or tribunal's satisfaction that measures undertaken by a state were the 'only way' to protect human life, even with the requisite

[126]Kurtz, *supra* note 88.

[127]*CMS (Award)*, *supra* note 87, paras. 353–78 (implied); *Sempra (Award)*, *supra* note 87, paras. 376–8 (explicit); *Enron (Award)*, *supra* note 87, para. 333.

[128]There are hints of the view in *Continental Casualty v. Argentine Republic (Award)* (ICSID Arbitral Tribunal, Case No. ARB/03/09, 5 September 2008) para. 168; *LG&E Argentine Republic (Decision on Liability)* (ICSID Arbitral Tribunal, Case No. ARB/02/1, 3 October 2006) para. 257; *El Paso Energy International Company v. Argentine Republic (Award)* (ICSID Arbitral Tribunal, Case No. ARB/03/15, 31 October 2011) para. 552.

[129]See *CMS Annulment Decision*, *supra* note 88, para. 129; *Continental Casualty (Award)*, ibid., para. 166.

[130]See Kurtz, *supra* note 88.

[131]See Henckels, *supra* note 28, at 374; Kurtz, ibid. This view is also shared by the Annulment Committee in *CMS Annulment Decision*, *supra* note 88, and A. Reinisch, 'Necessity in Investment Arbitration', (2010) *Netherlands Yearbook of International Law* 156.

[132]*LG&E Energy v. Argentina (Decision on Liability)*, *supra* note 128, para. 257.

[133]*Enron (Award)*, *supra* note 87, paras. 306–7; *Sempra (Award)*, *supra* note 87, para. 349; *CMS (Award)*, *supra* note 87, para. 322.

[134]*LG&E Energy (Decision on Liability)*, *supra* note 128, para. 257; *Continental Casualty (Award)*, *supra* note 128, para. 180; *Total S.A (Decision on Liability)*, *supra* note 102, para. 223.

[135]*Enron (Award)*, *supra* note 87, paras. 306–307; *Sempra (Award)*, *supra* note 87, para. 348.

[136]See Binder, *supra* note 36, at 916–19.

[137]Paddeu and Jephcott, *supra* note 119.

[138]See C. Foster, 'Necessity and Precaution in International Law: Responding to Oblique Forms of Urgency', (2008) 23(2) *New Zealand Universities Law Review* 265.

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deference given to the state in this assessment. Indeed, the sheer variance between states' quarantine policies militates against the view that there is only one way to protect human life from the virus. Further, what constitutes the 'only way' depends on the progress of the pandemic in any given state; border measures are not necessary once the virus has already spread within the local community. Indeed, the 'only way' requirement has been the decisive hurdle in defeating most international claims grounded on necessity.[139]

Finally, the issue of contribution may preclude reliance, whether this requires an element of fault,[140] or mere omissions.[141] As Waibel remarked about the Argentine economic crisis, '[n]o ICSID tribunal will ever be able to disentangle the exogenous and endogenous causes of such crises'.[142] Again, this point is taken further in Section 4, which argues that the requirement of non-contribution is even more difficult to satisfy in light of IDL's emphasis on the enhanced DRR responsibilities of states. Nonetheless, it is apparent more generally that the doctrine of necessity is poorly calibrated to the on-the-ground exigencies of disasters, even without regard to the modern sociology of disasters.

#### 3.2.2 In special treaty-regimes

The technique of exculpation has not been employed only in the form of customary defences. One important specialized exculpation mechanism exists in international trade law, in Article XX of the GATT.[143] (NPM clauses in investment agreements constitute another, if interpreted as defences.[144])

Generally classified as affirmative defences,[145] the sub-paragraphs of Article XX justify the breach by a WTO member state of a primary norm of trade law if its impugned measure was 'necessary' for certain regulatory objectives, including the protection of public morals[146] or human, animal or plant life or health,[147] the conservation of exhaustible natural resources,[148] or compliance with other laws and regulations.[149] Further, the *chapeau* of Article XX independently requires that the measure must not constitute arbitrary or unjustified discrimination between states where the same conditions prevail.

Article XX is potentially invocable in various disaster contexts, despite a dearth of jurisprudence in this regard. For instance, it appears that various states' COVID-19 response measures, including export restrictions on personal protective equipment and medication, may violate WTO norms (e.g., Article XI of the GATT, which disallows quantitative restrictions on exports); but that Article XX(b) is applicable because the restrictions are necessary to protect human life or health.[150] Moreover, there may be circumstances in which trade restrictions must be imposed as part of compliance with a binding and sufficiently specific disaster governance framework under national

[139]T. Christakis, '"Nécessité n'a pas de loi"? La nécessité en droit international', in Société Française pour le Droit International (ed.), *La nécessité en droit international – Colloque de Grenoble* (2007), 11.

[140]*Urbaser S.A v. Argentine Republic (Award)* (ICSID Arbitral Tribunal, Case No. ARB/07/26, 8 December 2016), para. 711.

[141]See, e.g., *Impregilo S.p.A v. Argentine Republic (Award)* (ICSID Arbitral Tribunal, Case No. ARB/07/17, 21 June 2011), para. 356, in which the tribunal held that 'well-intended but ill-conceived policies' can amount to contribution.

[142]M. Waibel, 'Two Worlds of Necessity in ICSID Arbitration: *CMS* and *LG&E*', (2007) 20 LJIL 643.

[143]GATT 1994, *supra* note 83, Art. XX.

[144]See Section 3.1.2.2, *supra*.

[145]Henckels, *supra* note 28, at 373; Appellate Body Report, *Korea – Measures Affecting Imports of Fresh, Chilled and Frozen Beef*, adopted 10 January 2001, AB-2000-8, WT/DS161/AB/R, WT/DS169/AB/R, at 47–8, para. 157. But see also C. Henckels, 'Permission to Act: The Legal Character of General and Security Exceptions in International Trade and Investment Law', (2020) 69 ICLQ 557.

[146]GATT 1994, *supra* note 83, Art. XX(a).

[147]Ibid., Art. XX(b).

[148]Ibid., Art. XX(g).

[149]Ibid., Art. XX(d).

[150]See, e.g., S. S. Aatreya, 'Are COVID-19 Related Trade Restrictions WTO-Consistent?', *EJIL:Talk!,* 25 April 2020, available at www.ejiltalk.org/are-covid-19-related-trade-restrictions-wto-consistent/.

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law, of the kind encouraged by IDL instruments such as the IFRC's Disaster Law Checklist and IDRL Guidelines,[151] so as to engage Article XX(d).

At the same time, this is conditional on satisfaction of the chapeau requirement of non-discrimination, and on a proportionality analysis. Indeed, the existence of an alternate, more WTO-consistent measure to achieve the same objective raises the likelihood of a measure not being justified under Article XX(b).[152] This imposes a significant regulatory burden on a state to factor WTO compliance considerations into disaster policy.

## 4. The modern sociology of disasters and its implications

Section 2 introduced a 'reactive model' of disaster regulation, encompassing the means and mechanisms by which disasters are reconciled with a state's existing obligations under international law. This model consists of the two techniques of 'disapplication' and 'exculpation' and their constituent doctrines and mechanisms. Section 3 then outlined these doctrines and mechanisms, using both existing literature and novel analysis to support the analytic claim that certain of them – particularly the VCLT grounds for treaty suspension, and customary defences – are maladapted to capture the full spectrum of disasters.

Crucially, a further analytic claim follows: these instances of doctrinal inadequacy arise because the applicability of these doctrines to disasters relies on an outdated view of disasters as rare and episodic events beyond human control. An evolution since the mid-twentieth century in sociological and scientific thinking about disasters, then, has produced a corresponding shift in the trajectory and present orientation of IDL as a discipline, culminating in the adaptive model characteristic of IDL today. This evolution is observable in three respects.

First, it has long been understood that anthropogenic climate change continues to increase the likelihood, frequency and severity of natural hazards and extreme weather events.[153] The ILC Draft Articles are among IDL's adaptive instruments to cite such 'frequency and severity' as a specific basis for regulation.[154] Conversely, the techniques of disapplication and exculpation depend to some extent on the rarity of disasters, and so their increased regularity strains them in three senses. First, it necessitates such regular recourse to these mechanisms as to significantly undermine the effectiveness and normative character of the primary norms being breached. Secondly, it also renders it impractical for a state, even if neither impecunious nor resource-strapped initially, to rely alone on disapplying norms or exculpating themselves from breaches during or after a disaster, given that costs and resource shortages will accumulate and compound over the course of a string of disasters.[155] But thirdly, as the norms within existing and future IDL instruments crystallize into binding law, then reliance on the reactive model to seek disapplication of or exculpation from a growing body of norms will become ever more counter-intuitive. The escalating ubiquity and variety of climate change-generated disaster risk, therefore, begets an adaptive regulatory approach dealing with every stage of the 'disaster cycle'[156] –

[151]IFRC, 'Checklist on Law and Disaster Risk Reduction: An Annotated Outline', October 2015, available at www.ifrc.org/Global/Publications/IDRL/Publications/The%20Checklist%20on%20law%20and%20DRR%20Oct2015%20EN%20v4.pdf; IFRC, 'Introduction to the Guidelines for the Domestic Facilitation and Regulation of International Disaster Relief and Initial Recovery Assistance', 2011, available at www.ifrc.org/PageFiles/41203/1205600-IDRL%20Guidelines-EN-LR%20(2).pdf.

[152]*Korea – Various Measures on Beef*, *supra* note 145, paras. 163, 166.

[153]IPCC, 'Summary for Policymakers', in T. Stocker et. al (eds.), *Climate Change 2013: The Physical Science Basis* (2013), 7. See also D. Farber, 'Climate Change and Disaster Law', in K. Gray, R. Tarasofsky and C. Carlarne, *The Oxford Handbook of International Climate Change Law* (2016), 588; J. McDonald and A. Telesetsky, 'Disaster by Degrees: The Implications of the IPCC 1.5ºC Report for Disaster Law', (2020) 1 *Yearbook of International Disaster Law* 179.

[154]See ILC Draft Articles, *supra* note 9, preamble.

[155]Clement, *supra* note 1, at 77–8. See also R. Lyster, *Climate Justice and Disaster Law* (2016), 139–55, which advocates for a Capabilities Approach for climate justice, in part because the uneven distribution of vulnerabilities to climate change-induced disasters between states and regions risks creating entrenched cycles of vulnerability and destruction in poorer states of the Global South.

[156]Farber, *supra* note 7.

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prevention and mitigation, response, recovery, and compensation – of the kind embodied in the Sendai Framework and IDL's basic imperatives.[157]

Secondly, it is well-understood – and has been for several decades in the social sciences,[158] though it has more recently 'migrate[d]' into international legal academia[159] – that disasters are not acts of God, but a social construct involving the coalescence of natural hazards with human-induced vulnerabilities to create a 'disaster'.[160] While '[t]he physical existence of disasters establishes an agency of nature that exists independently of human perception', it is human society that 'actualises the potential' of natural hazards.[161] As Lauta writes:

> [T]he scope of disasters has little to do with the hazard itself, and everything to do with the way we organise our societies.[162]

From the sociological view that human activities and choices contribute to the impacts of a disaster, disasters have long been regarded as 'amenable to regulation',[163] both from a legal and moral standpoint.[164] Modern IDL is premised on the notion that positive action by states is required, and potentially effective, to prevent and mitigate disaster risks, and to enhance response and recovery efforts. This agenda has been advanced for several decades, most recently in instruments such as the Sendai Framework, which 'internalises and operationalises' the view of disasters as social constructs.[165] Indeed, this also explains the change in focus within the modern IDL programme from the 'primarily response-centric model' of earlier years to 'one focused largely on prevention and preparedness'.[166]

This evolution in thought and regulatory orientation has, for one, eroded the conceptual rationale of the technique of exculpation in general, i.e., human non-responsibility. This rationale is incongruent with the 'mesh of liabilities and diffuse lines of responsibility' that disasters create.[167] As Surat and Lezaun have remarked, '[t]he law is to function as an instrument of forensic scrutiny and produce clear lines of accountability where there was only confusion'.[168]

More visibly, however, this also means that legal doctrines which reflect the anachronistic idea of disasters as rare and beyond human control may no longer be appropriate for disaster

[157]See Farber, ibid.; Lyster, *supra* note 155.

[158]P. O'Keefe, K. Westgate and B. Wisner, 'Taking the "Naturalness" out of "Natural Disaster"', (1976) 260 *Nature* 566, at 566–7.

[159]M. Cooper, 'Seven Dimensions of Disaster: The Sendai Framework and the Social Construction of Catastrophe', in K. Samuel, M. Aronsson-Storrier and K. Nakjavani Bookmiller (eds.), *The Cambridge Handbook of Disaster Risk Reduction and International Law* (2019), 17, at 17.

[160]G. Dodds, '"This Was No Act of God": Disaster, Causality and Politics', (2015) 6(1) *Risk, Hazards & Crisis in Public Policy* 44, at 49–51; D. Fidler, 'Disaster Relief and Governance After the Indian Ocean Tsunami: What Role for International Law?', (2005) 6 *Melbourne Journal of International Law* 458, at 467; R. Perry, 'What Is a Disaster?', in H. Rodríguez, E. Quarantelli and R. Dynes (eds.), *Handbook of Disaster Research* (2007); H. Fischer, 'The Sociology of Disaster: Definitions, Research Questions, & Measurements Continuation of the Discussion in a Post-September 11 Environment', (2003) 21 *International Journal of Mass Emergencies and Disasters* 91; B. Boruff, W. Lynn Shirley and S. L. Cutter, 'Social Vulnerability to Environmental Hazards', (2003) 84 *Social Science Quarterly*; B. Wisner et al., *At Risk: Natural Hazards, People's Vulnerability and Disasters* (2004).

[161]K. Hewitt, *Regions of Risk: A Geographical Introduction to Disasters* (1997), 18–19.

[162]Cedervall Lauta, *supra* note 12, at 95. See also E. Klinenberg, *Heat Wave: A Social Autopsy of Disaster in Chicago* (2002), 11, who described the 739 heat wave deaths in Chicago in 1995 as being 'biological reflections of social fault lines'.

[163]Fidler, *supra* note 160, at 467.

[164]L. Grow Sun, 'Climate Change and the Narrative of Disaster', in Peel and Fisher, *supra* note 15, 27, at 35–6.

[165]Cooper, *supra* note 159, at 17.

[166]International Law Commission, Fifth report on the protection of persons in the event of disasters by Special Rapporteur Eduardo Valencia-Ospina, UN Doc. A/CN.4/652 (9 April 2012), at 31, para. 114.

[167]A. Surat and J. Lezaun, 'Introduction: The Challenge of Crisis and Catastrophe in Law and Politics', in A. Surat and J. Lezuan (eds.), *Catastrophe: Law, Politics, and the Humanitarian Impulse* (2009), 1, at 7, cited in Cooper, *supra* note 159, at 19.

[168]Ibid.

regulation. In particular, the availability of *force majeure* and necessity is conditional on a state not contributing to the situation.[169] Given modern sociological thinking, any state would be hard-pressed to argue that its policies on urbanization, emergency response and external assistance, among other things, had not contributed to the impacts of a disaster.[170] Though inadvertent contributions which were done 'in good faith' and which did not themselves make 'the event any less unforeseen' do not preclude reliance on *force majeure*,[171] it is difficult to sustain a characterization of disasters as unforeseen, nor cast systemic failures to enact disaster prevention measures as good faith omissions. Of course, this brings temporal issues into play, as it is not certain how far back one can go when assessing contribution before a policy becomes too remote.

Similarly, given that it is 'extremely likely' that human activity has been the 'dominant cause' of accelerated global warming since the mid-twentieth century,[172] which in turn has increased the likelihood and intensity of disasters, this may preclude reliance on *force majeure* on the basis that a state, by failing to adopt sufficiently ambitious emissions reduction policies, has assumed the risk of the situation occurring.[173]

This conclusion equally applies to the requirement in VCLT Article 62 that a state seeking to suspend a treaty obligation on the basis of a 'fundamental change in circumstances' must demonstrate that the change was 'not foreseen by the parties' at the time of concluding the treaty. While parties brokering an investment treaty or free trade agreement, for instance, may not foresee specific disasters, Article 62 is phrased such that it is the change in circumstances which must not be foreseen, rather than the disaster itself. Therefore, it may be difficult to argue that they do not foresee that a fundamental change in circumstances, which radically transforms a key obligation to protect foreign investments or continue a free trade arrangement, might occur *at any point* by reason of a disaster, given their increasing statistical likelihood.

Conversely, however, doctrines which *do* embrace modern notions of human contribution to disasters remain better adapted. For instance, a broader conception of what is 'necessary' on the part of states to prevent disasters may render certain disapplication and exculpation mechanisms, e.g., NPM clauses and Article XX of the GATT, *more* easily invocable (their respective proportionality requirements notwithstanding). The heightened relevance of such doctrines can be explained on a conceptual level: such clauses, insofar they direct themselves not at disasters but at state responses to disasters, better encapsulate the notion of disasters as social constructs which humans must manage. In this way, they are also more consistent with the policy drivers and adaptive orientation of IDL. Therefore, state responses necessary to manage those risks (and in so doing, to protect 'animal and plant life and health' or 'essential security interests') fall within the clauses. The rationale for disapplication and exculpation in such clauses is *not* human non-responsibility for disasters, as it is for customary defences. Rather, it is the affirmative responsibility of states to manage disasters which justifies other conflicting obligations being disapplied, or the consequences of breach avoided.

Other mechanisms may also become more relevant because they better align with sociological and scientific realities. For one, the requirement for engaging VCLT Article 61 that there must be 'permanent destruction' of an object indispensable for the execution of the treaty may be more readily satisfied as climate change increases the intensity of disasters and their impacts on the many physical objects with which treaties are concerned, such as watercourses, forests, and nuclear facilities. For a similar reason, more disasters in future may satisfy the requirement for derogation under IHRL that a public emergency must 'threaten the life of the nation'. Finally, international courts and tribunals may in future take a flexible interpretation of primary

[169]See ARS, *supra* note 109, Arts. 23(2)(a), 25(2)(b).

[170]See M. Dellinger, 'Rethinking Force Majeure in Public International Law', (2017) 37 *Pace Law Review* 455.

[171]ARS, *supra* note 109, Commentary to Art. 23, para. 9.

[172]IPCC, *supra* note 153, at 17, Sec. D.3.

[173]ARS, *supra* note 109, Art. 23(2)(b); Dellinger, *supra* note 170, at 478–9.

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norms from other branches of international law when dealing with claims concerned with disasters, when IDL norms crystallize of sufficient particularity and bindingness to justify this approach.

In sum, certain doctrines embodying the regulatory techniques of disapplication and exculpation are ill-suited to regulate disasters, insofar as they depend on an understanding of disasters which has long been debunked. This unsuitability, first visible at a doctrinal level, reflects conceptual limitations in the reactive model for disaster regulation as a whole. This, in turn, explains the rise of adaptive regulatory initiatives which regard disasters as amenable to and requiring specific regulation. Nonetheless, there are some notable exceptions of reactive doctrines which remain well-adapted to modern disasters, including NPM clauses in trade and investment agreements, and derogation under IHRL. These doctrines retain their relevance because the disapplication or exculpation that they permit is grounded not on the belief that the disaster is beyond that state's control, but that it is precisely *within* its control to prevent and manage.

## 5. Conclusion

This article has made two contributions which might inform future forays into the burgeoning field of IDL. First, in terms of its methodology, it has presented a theoretical framework by which to understand how disasters are reconciled with a state's existing international legal obligations. This reactive model has been overlooked in IDL literature, at least in terms of its systemic relationship to the adaptive model that characterizes IDL's modern complexion. It is hoped that the present inquiry serves to historicize and account for the emergence of this adaptive model; and offers a springboard to prompt further research into the orientation, structure, and epistemology of IDL as an academic discipline.

Secondly, in terms of the substantive material presented, it has argued that the techniques of disapplication and exculpation which are employed to reconcile disasters with existing obligations under international law are inadequate insofar as their legitimizing sociological and scientific premises do not pass muster. This is crucial to policymakers for two reasons. First, it validates the adaptive regulatory initiatives pursued by central IDL actors such as the ILC and the IFRC for their consonance with modern sociology and science. Secondly, it indicates a need to continue to develop and engage with disapplication and exculpation mechanisms that do align conceptually with modern understandings of disasters, and to recalibrate those that do not. Further research is warranted in this regard, both to identify precisely which aspects of each doctrine are and are not fit for purpose, having regard to real and hypothetical disasters, and to propose reforms on that basis. Efforts to address, balance, and integrate the reactive and adaptive models for disaster regulation are crucial for IDL to sustain claims to policy relevance.

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