What if all we can see are the parts, and there is not a whole: elements and manifestations of the making of law of 'climate justice'

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> That justice exceeds law and calculation, that the unpresentable exceeds the determinable cannot and should not serve as an alibi for staying out of juridico-political battles... Left to itself, the incalculable and giving (donatrice) idea of justice is always very close to the bad, even to the worst for it can always be reappropriated by the most perverse calculation... And so incalculable justice requires us to calculate.
>
> Derrida (1990: 971)

My matter of concern is 'climate justice'.

On 6 and 7 November 2018 I attended the London segment of a series of landmark 'climate justice' hearings that took place in the Moot Court Room of the London School of Economics (LSE). It was part of the Philippine Human Rights Commission's Inquiry ("Carbon Major Inquiry") into claims of human rights violations attributed to - or caused by - so-called Carbon Major companies (Chevron, ExxonMobil, BP, Shell and others). The Inquiry was initiated in 2015 by individual Philippine citizens and civil rights organisations with the help of Greenpeace. The hearings took place in Manila, at the

Columbia University in New York and at the LSE between March and December 2018. They were livestreamed, video-recorded and transcribed. These media are freely available on the Human Rights Commission's website (https://essc.org.ph/content/nicc/).

The Inquiry resembled a tribunal in its format than an adjudication or litigation. Legally speaking, there was no dispute between parties, but a petition was taken up. The Inquiry was also unusual in the sense that the Commission has no jurisdiction in the countries where the Carbon Majors are incorporated, and this might have been reflected in the particular way it was conducted. The findings of the Inquiry are not legally binding, but the Commission hopes that they will contribute to the building of an emerging domestic and international jurisprudence of 'climate justice'.

This essay is an attempt to understand how a complex matter of a planetary scale would be materialised into a 'legal' matter in a hearing in a moot court room (is it 'moot'? is it 'law'?) in central London: how do you put and relate a planet, wind and precipitation of "super-typhoons" in the Philippines, rain-drenched shivering children, floating corpses, mud, hunger, thirst, lack of sanitation, computer datasets, digital algorithms, scientists, ethicists, pension actuaries, lawyers, youtube livestream, court file numbers, in a medium-sized room over a period of two days? Initial conjectures to this question might be: 'language' or 'discourse' employed *in* 'legal fiction', or ways of representing the 'world' within the legal language and performance of human rights. In Latourian terms, we could say that these disparate elements were associated into a chain of reference so to relate to one another (Latour 1984). Yet, at the moment, there seems to be more unstable relations and materials at play than a human-linguistic, metaphorical or actor-network *post-facto* analysis could intimate. This is because justice and climate are both abstract concepts. The meaning of their composite, 'climate justice', is not clear. If the 'parts' (justice, climate) are moving and unstable concepts, how does law figure them 'whole' (climate justice)? Identifying the constitutive elements of an emerging legal matter is one issue, but the more difficult task is to diagnose the nature

or dynamics of relations between the elements themselves. This entails delineating relations between three issues, which involve questions of scale, perspective and knowledge:

First, if the court room and us are part of the planet, how exactly does the legal performance bring the 'whole' of which we are also part into our partial reality?[1] This is a question about my point of observation amidst different scales and about the ways in which I collate and assemble different parts despite a missing overall whole picture. The same question also applies to the Philippine Human Rights Commission: is it aware of its relative position within the planetary scale, both physically and in terms of its legal power? I show that the Commission sought to reflect as messily as possible the multiple and fractured realities and its own relations and situatedness within the legal and planetary spaces by carefully choosing certain places, media and format for the hearings. It did not posit an overarching perspective (for example, a trans-generational or trans-species justice or ideas of responsibility (Shue 2018)) or causal equivalence between different kinds of worlds: human experiential, legal and scientific.

Second, 'climate justice' is an emerging legal principle and concern, which is increasingly associated with a human rights-focused litigation strategy. It does not yet have a stable legal reality, but the idea is invoked and enacted with a view from what it ought to 'be' and from decidedly human perspective and scale. In light of the matter of 'climate justice' not being fully formed, I approach the Carbon Majors Inquiry from a legal materialist angle. This is helpful for putting together a detailed picture of how an abstract, vast, planetary matter of concern may become materialised as a legal matter of concern. It shows how legal materials, such as trial locations, settings, order of witness testimonies, mobilise in a miniature-scale something so big in scale that would normally be numbing and immobilising. I hope to bring into vision a more granular understanding of how law is made, particularly at times when its matters and materials are novel or in a flux.

Third, legal determination of climate justice depends on establishing causality between the quantitative models of greenhouse gas emissions

and the qualitative determination of legality: how exactly are the calculated attributions of historical greenhouse emissions related to a legal attribution of human rights violation? How does law 'calculate' them in order to achieve 'climate justice', although justice is incalculable as Derrida had pointed out (opening quote)? These questions concern shifts between multiple scales and viewpoints in legal modes of knowing. I examine what counts as legally material knowledge in the unusual framework of the Carbon Majors Inquiry and consider whether the international human rights law framework is suited to grasp and adequately represent the different concerns that converge in and simultaneously exceed human language and cognition.

The aim of this essay is diagnostic. It observes and describes the three above sketched issues within a specific setting in which 'climate justice' has been invoked. The genre is an essay; it tries to make sense of what is happening in the current torrent of events by taking a step back from the growing association of the meaning of 'climate justice' with international human rights and development. In the first two sections, I discuss the elusive value of 'justice' and then the abstract scientific concept of 'climate'. Yet the placing these two abstract ideas adjacent to one another, a literal spatial and temporal juxtaposition, seems to mobilise them into a novel composite vehicle of legal action. In the third section, I describe the emergent materialisation of 'climate justice' in the Philippine Carbon Major Inquiry's London hearings. Less focused on the Inquiry's findings, I am more interested in the material techniques and formats by which a legal matter of 'climate justice' becomes established: the unusual set-up of the mediatised hearings and the juxtaposition of numerical and visual representations of climate with personal narratives of climate change by victims of super-typhoons.

This essay eschews a doctrinal analysis of environmental or international human rights law, or of multi-level jurisdictional issues. This is because I can neither identify a sufficiently delineated object of inquiry ('climate justice' - although it is very much desired and its lack is felt) nor an existing method (legal doctrines were emerging

rather than already there). Instead of assuming 'climate justice' as a premise or as an activist strategy, I hope to get a better sense of its present reality at the end of the analysis. I trace its current form and substance by attending to the specific modes by which words, utterances and objects act as constitutive materials for this emerging legal matter (see introduction to this issue; Kang 2018; Kang & Kendall 2019). A legal materialist focus might better bring into vision the complex and contradictory particularities of our present moment than a doctrinal top-down analysis or a policy-driven bottom-up 'recipe'.

1 Looking for justice

Derrida wrote that justice is unrepresentable, incalculable, excessive, *donatrice*, a gift (1990). Perhaps it was precisely the absence of justice related to matters of climate that mobilised 'climate justice' as a composite claim. I understand the claim's strategic utility to consist in being able to hold at least *someone or something* (a legally incorporated persona, such as a corporation or government) legally attributable *now* for the climate crisis, which has however had and will continue to have a *longue durée* of past, present and future.

In a moral, philosophical sense, climate justice does not have a stable meaning. Although justice is what most people will seek and equate with the legal system, when they bring a claim, and identify it as the purpose of law, it is elusive even in what seems most satisfying adjudicatory outcomes, which deliver some kind of recognition of pain, guilt, punishment, perhaps even restoration and remedy. But more often than not, law fails expectations of righteousness and moral certainty in adjudication; what seems justified for one party will not be so for the other. Otherwise they would not be in dispute. Most legal scholars and lawyers do not assume an overlap between law and moral justice, nor do they expect law to equate to or deliver 'justice'. This is often perceived as a gap between what is desired and what is achieved, and that is what makes law so disappointing and infuriating. I have yet to come across a law school module entitled 'Justice'; in political theory and ethics, there are many. In law, both in word and practice, justice

is often framed as a question of fairness of procedure, reconstruction of events, evidentiary status, admissibility and judicial interpretation in inquisitorial civil law settings or weighing of arguments presented by the parties in light of statute and precedents in more adversarial common law traditions. A legal decision comes about as a result of the more convincing legal interpretation formed into a better argument. The scale of justice does not weigh the just against the unjust, but on the one side, there is the weight of arguments and, on the other, the counter-arguments.[2] Whatever remains of justice is procedurally performed and bound in which the 'whole' picture is elusive.

Justice is not a legal doctrine or principle. It is - to use Latour's terminology - not a legal matter of concern. This sounds harsh, but this is not to say that it does not exist in different forms or manifestations of legal matters. It hovers as a real spectre around 'law', but is not part or inside of it. As Derrida wrote, "one cannot speak *directly* about justice, thematize or objectivize justice, say "this is just" and even less "I am just," without immediately betraying justice, if not law *(droit).*" (1990: 935) What most legal theorists and scholars would agree on is that law has a specific 'internal' language and rules of the game which need to be mastered to understand it (Hart's internal point of view or Wittgenstein's language game) and that it relies on specific institutionalised media and a tradition of material techniques to perform its legality. Yet law's origins and practical effects are 'external' because they depend on a group's agreement about a legitimate recourse to sanction. Such an understanding of law as an effect or force can be found in Benjamin's understanding of *Gewalt*, which denotes latent power or 'force'. *Gewalt* was translated and connoted misleadingly as violence into French and English (Derrida 1990: 927).[3]

Differently for Derrida, legal force is not a sovereign-juridical violence, but a *différance* of force, as he emphasised "also and especially of all the paradoxical situations in which the greatest force and the greatest weakness strangely enough exchange places. And that is the whole history." (1990: 929) Legal force is not always physical enforcement and violence. Conversely, violence could also

be understood as the effect of the non-event of expected legal 'force': increased pressure to alternative dispute resolution mechanisms and out-of-court settlements, lack of enforcement of alimony payments, defendants with no legal representation because of lack of legal aid, etc. Moyn has criticised the hope placed in (human rights) law and pointed to their adverse effects (2018) that are akin to a joke of "cruel optimism", to paraphrase Lauren Berlant's term. I would argue that it is equally possible to understand law or 'legal force' as a *cruel pessimism*, in which the default is an expected absence of any legal force, not to mention its elusive Other, justice.[4] Such cruel pessimism is abound in domestic jurisdictions, but is particularly acute in international legal fields whose teeth depend on the interstice of the politically possible.

Justice is what law cannot know and yet seeks as its unrepresentable essence. This raises the question why justice is still expected to be achieved through legal means and whether human justice could ever, even remotely, claim 'climate' justice, particularly when the meaning of 'climate' itself is abstract. Matters - issues - don't speak by themselves without rhetorical, spatial and temporal frameworks. This is why the set of techniques and mediations through which they become material need to be examined. Thinking about what is 'legal' about legal materiality, I argued against a simplistic understanding of materiality as physicality (2018): certain materials (physical objects, images, practices, techniques) become enlisted by legal reasoning and give body to legal matters (matters of concern) in law, but the processes by which they become meaningful to law is not self-evident and needs to be explained. This implies that the idea of 'climate justice' may be located in the gap between legal matters (in this context, international human right principles) and the reality of its enactment through specific materials and their effects (the constitutive elements of the legal Inquiry and their lack of enforcement power).

2 Looking for climate

The other element in the composite of 'climate justice' is 'climate'. The concept of 'climate' is an unruly composition, which is often only

manifested and becomes visible as a consequence of anomalies, for example, the effects of changing climate on biopolitics of population health and migration, geopolitical calculations on water, securement of food supplies. Climate is not a representation of a singular process. It is also not a linguistic representation of a weather event, measured by temperature or precipitation. Its material reality rather consists of a composition of historical extrapolations, measurements, past and projected data, mathematical calculations of averages and means, and computer algorithms. It is a deeply temporal, yet also abstract composite concept.

In the scientific sense of the term, climate is an artefact of measurement and calculation of means. The World Meteorology Organisation defines climate as "the measurement of the mean and variability of relevant quantities of certain variables (such as temperature, precipitation or wind) over a period of time, ranging from months to thousands or millions of years." The average period to determine what is 'normal' and 'abnormal' climate is 30 years. Climate in a wider sense is also "the state, including a statistical description, of the climate system" which consists of five components: the atmosphere, hydrosphere, cryosphere, land surface and the biosphere also known as the ecosphere or the environment. Gabriele Gramelsberger, a philosopher of science, points out that the notion of climate involves both a scaling-up of historical, local and singular data that are taken as proxies and extrapolated into uniform data and datasets (2017). These, in turn, are modelled with algorithms to make an assumption of a 'climate balance' as the zero-line 'normal' base case from an average of the past ten thousand years. The deviations from such a statistical mean value is then interpreted as climate change. Such a scientific concept of 'climate' is then a mediated and performative category that has undergone multiple layers of transpositions. It incorporates historical information, data, formats multiple singular data into uniformity, and renders them suitable for predictive modelling and simulations.

Change of climate refers to a statistically significant variation in either the mean state of the climate or in its variability, persisting for

an extended period (typically decades or longer). 'Climate change', in this sense, depends on a statistical calculation of norm and deviation; in other words, it is an anomaly based on a broader temporal statistical framework of 'climate' that mixes factual and extrapolated data (Edwards, 2010). From the 1970s onwards, the noun 'climate change' however "became 'an issue' rather than the technical description of changing weather as it had been for the World Metereological Organisation in 1966." (Hulme 2014: 1).

The qualification of what constitutes 'normal' degree of harmful weather - abnormal harm - as opposed to climate change-induced anomalous degree of harm is often ascertained by recourse to scientific papers and quantitative calculations of past observable data. At the Carbon Majors hearings in London in November 2018, Myles Allen, one of the co-authors of the International Panel on Climate Change (IPCC)'s special report on the impacts of global warming of 1.5 °C above pre-industrial levels, referred to a scientific paper by Takayabu and others (2015) that argued that the unprecedented intensity of storms can be traced back to human influences that led to an average of higher probability of increased wind level. Typhoon Haiyan that devastated the Philippines in 2013 was the strongest tropical cyclones ever recorded surpassing existing typhoon classification. The highest level until Haiyan was category 3. A new category of level 5 "super typhoon" had to be invented after Haiyan. It caused approximately 6201 deaths, more than 27000 injuries and the displacement of nearly four million people. But it is not only the singular catastrophic typhoon that is beyond the abnormal level of harm. The frequency of harmful weather also results in an accumulated effect of anomalous level of harm. Philippines suffers from more than twenty storms a year on average.

Philippine is one of the countries assessed as being one of the most vulnerable to the effects of climate change to which it hardly contributed (Pretis 2018). Most countries who already do or will suffer from climate change are the ones which did not contribute to the accumulated and now exponential effects of human-caused climate change. Yet the actors

and factors that caused those highly localised sufferings are not here or there in the sense of law. They no longer exist or are already dead: historical emitters, such as British coal-fuelled factories, or companies that have changed their corporate identities in their imperial histories, such as Burmah Oil that became Anglo-Persian Oil Company and later, BP (Mitchell 2011: 43-65). Or they are not 'legal persons' in the jurisdictions in which they can be addressed and held accountable for the consequences of their action (for example, global shipping systems, elements of which operate under multiple jurisdictions). Historically most of the emission of greenhouse gases stems from the US (Malm 2016). Global level of CO2 emission at 2018 was at a record.

The materiality of 'climate' in the narrow meaning of the term is an organic and inorganic composite of organisms, tangible and intangible knowledge systems and histories, which comprise a vast number of disparate elements that constitute the concept of 'climate',: gases, earth, plants, living organisms human and non-human, numbers, words, rock samples, photographs, computer algorithms for calculating means, simulations based on algorithmic models of future trends based on past data, scientists, international institutions, such as International Energy Agency, IPCC, parties of the UN Framework Convention on Climate Change, non-governmental organisations, working groups, emails, letters, meetings, protesters, networks on social media, plaintiffs, lawyers, judges, school pupils walking out, and so on. It is difficult to think of anything which would not qualify as being part of 'climate'.

The concept of climate links particular and sensed experiences that cannot be ordinarily related to one another into an overarching explanatory framework and relations of causality and probability. At the same time, by creating an aggregated scientific representation and modelling of particular and fractured realities of historical and local observations, climate sciences eclipse the specific, concrete, particulars into an abstract scientific model and re-imagines them as future fractured realities through localised predictions of climate change impact. Science thus turns invisible the particular manifestations and experiences, but makes visible the overall explanatory framework. Our

knowledge of climate and climate change "is a knowledge that can only be created via a techno-scientific apparatus so extensive that it is now an entire planetary infrastructure" (Wark 2015: 180). The scientific mode of knowledge shifts, reverses and invents different perspectives of our ability to 'see' and make sense of climate. Although such a scaling-up of vision entails all the problems associated with abstraction and its violence (Weizmann and Sheikh 2015), it also mobilises novel associations, such as the emerging legal practice of 'climate justice'.

3 Materialising the matter of climate justice: juxtaposing rather than translating

The law of 'climate justice' is in the early stages of its formation (Jafry 2018; Klinsky and Brankovic 2018; Robinson 2018), although there is no shortage of academic work written on the ethics and political theory of climate change, referred to broadly as 'climate justice' (Shue 2018; Gardiner 2011; Vanderheiden 2008). Different legal subfields can be mobilised to articulate what is just or unjust in light of the effects of climate change: tort, environmental, international, property, intellectual property, medical, company laws (see Setzer & Vanhala for an overview of litigation relating to climate change, 2019); but increasingly the term 'climate justice' has become closely associated with an invocation of international law of human rights together the aim of 'development' (UN Special Rapporteur on extreme poverty and human rights 2019). It embodies the premises that justice is a human matter and that human suffering ought to be remedied in order to benefit politically underrepresented people.

Despite, or precisely because of, its avowed link to the legalistic and universalistic vision of human rights, climate justice may perhaps never stabilise into a coherent and overarching set of legal matters, that is to say, doctrines or principles, paradoxically because of its planetary scale of the problem, which needs to be scaled down to a much smaller scale of cause and effect relations that is recognisable to legal modes of reasoning. So far legal claims for climate justice have been marked by a remarkable fragmentation of non-binding, binding and yet not

enforceable, domestic and international legal obligations, agreements and laws.[5] Yet in order for the scholar to observe how climate justice is increasingly figured as a legal matter, examining its materiality can help to break the complex matter down to its appearances, partial manifestations, experiences and materials: the text of the petition by the room of a 'climate justice' landmark hearing, the testimonies and expressions of panelists, witnesses, audiences, powerpoint slides and the position and movement of the video camera. It is in this sense that a draft text for the Paris Agreement can be the battle site against manifestations of injustice propelled by climate change, which the South African negotiator, Nozipho Mxakato-Diseko, had described as a "recipe for apartheid" (Malm 2015). The constitutive materials and media in the making of law shape the composition of a legal matter. They enable the idea of 'climate justice' to attain legal reality.

It is taken for granted but really rather odd, that legal internal processes and formats remain relatively constant in institutions and across various jurisdictions, despite the plethora and scales of different issues brought to adjudication, inquiry or legislative deliberation. The phenomena that are associated with climate change are unprecedented, but these events are brought to the courts or tribunals that might employ the same legal formats of giving evidence or resort to the same doctrines, rules and processes that might be used in the context of, for example, property disputes about trees causing subsidence and harming the value of your neighbour's property. This was the case in *Lliuya v RWE* (2015, currently ongoing in Oberlandesgericht Hamm, Germany, concerning Lliuya's claim for damages from the German utility company, RWE, for its proportional contribution to global warming that is claimed to have caused the melting of glacier damaging his property in Peru).[6]

This is particularly strange considering that all of the manifestations of climate change operate on different scales of knowledge and perspectival origins: weather is a singular temporal and spatial observation, it is perceived and felt by humans, whereas climate is a mathematical notion in reference to a broader temporal and spatial

framework. Climate denotes an absolute mean value, that is, a mathematical calculation that cannot be experienced. For example, in relation to the Watt-Cloutier petition seeking relief from violations resulting from global warming caused by acts and emissions of the United States and submitted to the Inter-American Commission on Human Rights, the Commission declared the petition inadmissible since "the information provided does not enable us to determine whether the alleged facts would tend to characterise a violation of rights protected by the American Declaration".[7] In other words, the Commission declared that human observations of changing weather and its effects, i.e. the "alleged facts", could neither be linked to the legal conception of human rights nor to the science of climate change. The elements of a narrative were there, but they could not be linked into one another to form a more stable whole. They were not meaningful as legal materials. The questions at stake are which kind of experience are seen and can be made more legally material and how these different knowledges and claims can be juxtaposed so to give substance to a legal matter of concern. How did the Philippine Human Rights Commission approach the legal matter of climate justice and attempt to give legal shape to a plethora of phenomena that were both experienced and numerically calculated?

Commissioner Roberto Eugenio Cadiz, the presiding chair of the Commission, describes climate justice as an emerging idealistic and creative strategy of human rights law rather than reflecting an existing legal reality:

> The challenge to national human rights institutions is to test boundaries and create new paths, to be bold and creative instead of timid and docile, to be more idealistic and less pragmatic, to promote soft laws into becoming hard laws, to be able to see beyond legal technicalities and establish guiding principles that can later become binding treaties - in sum, to set the bar of human rights to a higher standard. (https://essc.org.ph/content/nicc/).

A number of such creative litigation related to climate justice is ongoing in multiple jurisdictions at the time of writing.[8] In London,

Commissioner Cadiz straddled a fine balance between performing a recognisable legality, on the one hand, and on the other hand, stabilising a novel legal matter of concern by multiple associations: from historical greenhouse gas emissions to climate change, and from the unprecedented intensity of past typhoons in the Philippines to human rights violations. The Inquiry explored the nature of these connections and their limits.

The spatial-temporal process of this Inquiry was unusual by being multi-sited and virtual. Commissioner Cadiz emphasised at the start of the London hearings that the aim of the Inquiry was to initiate a global dialogue around climate change. The hearings were held in three cities: Manila, the seat of the Commission and its place of jurisdiction, as well as the global centres of New York and London where it had no jurisdiction. The hearings were accessible to members of the public and the press. They were also livestreamed. A professional camera man recorded the hearings, whilst simultaneously keeping an eye on the livestream youtube page. The decision to have multiple sites for the hearing was peculiar, but apt: none of the major carbon producing companies are headquartered in the Philippines or are Philippine legal entities, they are mainly American or European ones. Dr Joana Setzer of the Grantham Institute for Climate Change at the LSE explained to me that "Commissioner Cadiz wanted this to be a global issue. He wanted to initiate a global dialogue rather than an adversarial confrontation." The petitioners' website also states that "the process would be a dialogue and not an investigation to determine guilt or innocence." (ESSC, National Inquiry on Climate Change). Non-governmental organisations, such as Greenpeace, the Sabin Center for Climate Change at Columbia University and the Grantham Institute assisted the Commission in the set-up of the hearings.

Cornelia Vismann had insightfully analysed differences between hearings, trials and television tribunals (2003). I wondered what she would have thought of this special multi-location, multi-media, globally networked legal event. In the London hearings, the hard-working camera man consulted with Dr Setzer at the beginning of the first day;

moved back and forth between the camera which was placed next to the desk for the invited testimonies and the computer at the back of the room that was connected to the powerpoint screen; established the skype connection and checked for volume. From the outset, the hearing was to be livestreamed, recorded and uploaded to the www. It is in this sense that the hearings instantaneously formed a digital 'archive' with the ability to be immediately retrieved and circulated. The video recordings and their online presence were perhaps even more significant than the physical locations. The digital availability and circulation of the recording amplifies and accelerates the hearing's status as an emergent (legal) matter considerably than the mere act of recording and inscribing a legal hearing in cellulose or silico. These digital mediations did not only reflect the global issue of climate justice that exceeded a single physical location, but it also strangely fit the plasticity and abstractness of both concepts of climate and justice. The online presence of the hearings gave shape to the composite term 'climate justice'.

Whereas the international mobilisation of NGOs, witnesses and experts reflected the multi-spatial nature of climate justice as an issue, the digital presence and multi-site format were certainly also creative solutions to the discrepancy between the occasion's momentous legal creative significance to build a necessarily international jurisprudence of 'climate justice' and the Commission's inability to enforce or award damages, because the formal format was that of an inquiry rather than one of litigation or adjudication. Although Dr Setzer introduced the Inquiry by embedding its importance in temporal terms as having an "impact on the past, present and the future", some carbon major companies had disputed the Commission's jurisdiction on the ground of the principle of territoriality. None of the carbon major corporations whose responsibilities were investigated were present at the hearings. The ethicist, Henry Shue, who testified via skype from Oxford, observed: "I think it is disrespectful not to respond. It does not take the Commission seriously and that is insulting to the Commission." (my transcript) At the beginning of the first day of the hearings, Commissioner Cadiz recognised the legal norm of territorial jurisdiction and stated: "We respect the principle of territorial jurisdiction". Yet the legal status of the Inquiry remained a fluid one; at one point, Commissioner Cadiz corrected himself when he said "in this court" to "in this room".

The London hearings took place in the medium-sized moot court room of the LSE Law Department. The room had been rearranged from its normal circular setting into a frontal one resembling a court. The Commissioners were seated slightly higher in a row facing the audience. The clerks sat to their right. Legal officials entered the room from a different door than the audience. The lawyers of the petitioners sat at a desk separated from the row of audience members. The witnesses and expert were summoned to a desk that was positioned between the audience and the Commission. It resembled the layout of a court room. Yet there were bits that gave inklings of this extraordinary yet somehow also strangely familiar mis-en-scène that distinguished it from a court of law. The overall atmosphere was one of a large gathering of people that already seemed to know each other from previous encounters. During

breaks people were introduced to one another, and the atmosphere was friendly. The two-days of hearing were organised as sequences of a mixture of invited witness and expert statements. Testimonies were invited rather than summoned. The statements and the format in which the experts presented resembled the academic conference with powerpoint presentations than a legal proceeding. Shue's skype testimony was projected on a large screen. Presiding Commissioner Cadiz invited comments and questions from the audience after each testimony.

The heterogeneous assembly in the moot court room - composed of people who lost their homes several times due to typhoons, human rights commissioners, their clerks and lawyers, fresh-faced young lawyers from Baker MacKenzie and Linklaters in the audience probably taking notes on behalf of their Carbon Major corporate clients, Greenpeace lawyers and activists seated next to them, expert and witness testifying over two days, and observers like me - made me think of the heterogeneous elements which materialise 'law': the distributed location of the hearings; media technologies of bringing the matter together; issues of law's mobility, mobilisation of networks; the discursive construction of legal matters, which have the ability to materialise something which is not visible, such as global warming; the difficulty of establishing a legal matter despite real, physical, material harm as told in the powerful testimonies of typhoon survivors. There were also simultaneous fluidity and yet hedging disclaimer brackets between disciplinary expertise.

My initial interest in the hearings had focused on the ways in which the Inquiry would transform scientific attribution principles and risks into legal responsibility and liability by reference to the fast-developing area of so-called attribution science, which calculates and attributes a defined quantity of greenhouse emissions to individual companies or countries. Richard Heede's 2014 report on Carbon Majors formed the central scientific foundation for the legal inquiry. It broke down the emissions to the largest carbon producing companies and states. The Inquiry's remit of investigating human rights violations that were

allegedly caused by Carbon Major companies required a reconstruction of the linkage between historic greenhouse emissions, their contribution to climate change, legal obligations and responsibility not to violate them. In other words, the strength of legal reasoning rested on scaling down climate change models, linking past emission data based on past company and meteorological data across different spaces and actors, breaking down global carbon production over time, to typhoons that devastated the Philippines and in turn establish relation between all of the foregoing to human rights violations suffered by the petitioners.

Law, particularly tort law, deals with issues of risks in which causality between the actions of the defendant and the effects on the plaintiff is difficult to prove so that a likelihood of harm, a legal determination, rests on probability calculations (Goldberg 2011). I was expecting a detailed questioning into the assumptions of Heede's report and the attribution sciences, as the scale and complexity of proving the plausibility soundness of the petitioners' claims was extraordinary and would require linking the three scales of the individual, legal and scientific experiences and modes of reasoning. But climate sciences, including attribution sciences, were not opened up and left intact as truth statements. Myles Allen, one of the co-authors of the IPCC 1.5°c report, had also testified in the *City of Oakland vs Carbon Majors* case (case 3:17 cv-06011-WHA-2019) earlier that year. He expressed his surprise about not having been queried about the soundness of the climate models in that case:

> *Commissioner Cadiz* "Are you aware if any of the fossil fuel companies use attribution science to look at their impact?"
>
> *Prof Myles Allen*: "I am not aware but one interesting case, all on public record, the companies did not dispute the large-scale warming and attributable harm. The focus on what was known when. There was no serious debate about the kind of work I do. I came away a little disappointed because I was expecting an argument, and there was none." (Transcript, London, 7 November 2018)

Perhaps based on previous experiences of giving expert testimony, Allen's statement was the only one that attempted to draw a boundary

between ‘legal’ knowledge and other kinds, although he seemed to have a distinct sense of what would make a good legal argument or judgment: “The plaintiffs lost in San Francisco. I commend the judgment to you, it’s a very intelligent judgment ...as lawyers you should read the judgment, I am not a lawyer”. Later he reverted to his scientific persona: “I am only saying as a scientist what would have been technically possible.” Despite an explicit positioning of his identity as a non-lawyer but as a climate modelling scientist (“the panel should hear on climate change experts on the Philippines. I am global climate modeller, it’s not my brief”), Allen’s statement was carefully crafted and delineated a historical relation between carbon emissions, scientific knowledge at a given point in time, and the carbon majors’ moral responsibility. His testimony linked the question of available knowledge at a certain time to questions of responsibility and harm. Allen addressed the question whether the companies could have foreseen warming and avoided harm. Referring to the economist, William Nordhaus’ 1977 ‘Strategies for control of carbon dioxide’ paper (Cowles discussion paper 477, 6 January 1977), Allen contextualised the state of knowledge in 1977, which had - with hindsight - correctly estimated the change of global temperature with continued fossil use. He situated the “sciences” by explaining that Nordhaus’ study was not a “niche science”, but that Nordhaus was drawing data from mainstream climate science community at that time. These had not been based on modelled extrapolations, but on already available data about temperature and fossil expenditure: “This was not a niche research confined to a particular economist but this was reasonably established knowledge by the 1980s. The papers of fuel industry also show that they were well aware of the warming.” The industry, equipped with the knowledge in the 1980s, could have prevented the exponential climate change that we are currently experiencing. Here Allen’s rhetoric resembled legal advocacy than a disinterested Mertonian scientific expert statement: “The crucial point is - in my view - and I would like you to consider this - that there was an alternative course of action to the industry.”

Allen seemed fully prepared to provide justifications for the methodology of climate change models. He emphasised several times

that the attribution science findings had been based on historical data rather than modelled predictions. It seemed to me that he was acutely aware of the difficulty of establishing substantive legal connection between past moral responsibility to recent harm. Yet at the same time, when answering the question whether typhoons, such as the "super-typhoon" Yolanda, were caused by human factors or not in light of the findings by climate scientists (Takayabu et al. 2015), he worded his explanation with extreme care and differentiated between simple models of causality (Humean billiard game) and probable causality. It made clear that there was no linear or direct causality at play, but rather a higher probability of an event:

> ... the answer is not certain. It's not a billiard game. It's a much more chaotic situation. You can't say precisely in an individual instance that an external driver such as large scale warming will influence a chaotic event such as typhoon... You can't say that there is higher wind due to human influence, but [we can say that there is] an average increase, higher probability of very high wind, with human influence.... it's not the warming or human influences have caused the storms but we can see from the study (it can be recommended as it is a carefully constructed study) it shows how human influences have increased wind level and therefore made storms more intense. (my transcript)

I was sitting next to Veronica Cabe who survived a series of typhoons and also gave a testimony, as Myles Allen was explaining scientific graphs on the screen. I wondered what she thought of these visualisations when their experiences of the typhoon were literally so different from the "carefully constructed study" that was being explained. In London, two typhoon victims testified: Marielle Bacason who had survived Typhoon Haiyan and was now a research nurse based in London and Veronica Cabe who was a community organiser for the Nuclear Free Bataan Movement and had experienced several typhoons, the worst of which was typhoon Ketsana. All commissioners listened intently to their personal accounts of the typhoon, perhaps even more so than when they were listening to legal and scientific expert statements. Their faces were fully turned and attentive. Cabe's statement of what a typhoon feels like when it occurs rendered on human-scale the reality

of what climate scientists have called "the increase in intensity of human-influenced storms":

> the water level was rising up to roof level. I needed to reunite with my family. The priority was to bring cooked food (they had no food for 24 hours) and dry clothes because of exposure to cold rain. They were cleaning already stuck in knee-level mud. Everything was lost: personal belonging, underwear, toothbrush. I was worried about my father's already bad health.
>
> The floods have changed our lives. I felt that parts of our dignity was lost [voice breaking].
>
> We had to rely on help and donations. I went to relief lines and wait for hours, half a day for a parcel of relief, not knowing if it would arrive, line again for another day. Relief goods were thrown at us, neighbours were fighting each other just to get their share because it was chaotic, and the government was not ready for the ongoing floods at the time. We had to borrow money from anyone.
>
> Monsoon rain caused flooding again. We lost everything again. I knew that typhoon would come again and wreck everything that we had put up.
>
> When would this situation stop?
>
> When will the process of recovering and rebuilding end?
> Until now we yet have to get back our own house.
> My mother has psychological issues.
> My father before he died asked again and again: [says something in Filipino]
> He was saying "when can we rebuild our house?"
> In reality it is not easy because we do not have the money [voice breaks].
> Are we going to move again?
> [empathetic faces in the commission]
> I think this is my reality.
> For many Filipinos this is their reality.
> There is no choice but to survive the typhoon. Having no water, no electricity, not knowing that the family is safe.
> I ask: do we really have a choice?

> I have been engaged in local community organisation against coal and nuclear facilities.
> I have seen that poor communities have become even more impoverished.
> I believe that our stories and voices can be heard through this petition
> I believe that the governments and corporations have the choice to act differently.
> They have the right to do their business but we also have the right to be.
>
> (my transcript)

Although the Inquiry had no binding force, it had a familiar legal format. The testimonies were ordered, presented and matched with their administrative filing numbers. Every testimony started after associating it with the filed documents for the 'record':

> Comissioner Cadiz: "what are the titles of these documents please?"
>
> Clerk gives the file designation, titles and length of pages ("consisting of 15 pages") and adds that these confirmations are "just for the record".

The individual testimonies were left in their entirety and lightly questioned for comprehension. During the hearing, the Commission did not explicitly relate the state of scientific knowledge to a legal finding of a human rights violation. Myles Allen's statement attributed the intensity of storm levels to human influence, but in my understanding, it appeared just short of establishing an unequivocal causal link between the responsibility of carbon majors to the human rights violations suffered by Philippine citizens. The hearing did not attempt to construct a coherent causal or teleological narrative. Nor did it choreograph or perform a drama. Rather it resembled a formalised, legally formatted, dissonant, polyphonic sequence. The order of testimonies seemed disconnected. The first day proceeded in this order: a UNICEF official, a UCL environmental scientist, a Church of England ethical pension fund advisor, followed by the lawyer acting for Lliuya against RWE etc. It reflected the fragmented totality of climate justice as an idea that ought to encompass multi-scalar, transdisciplinary, multi-species perspectives, but which remained bound by pragmatic constraints (who

would be available when) and traditional legal formats and procedures. The picture of a 'whole' - climate justice - in relation to its situated parts (testimonies, graphs, powerpoint, skype call, lawyers, cameraman, academics, files, screens, furniture arrangement) was left to the observer to piece together. This seemed to me more truthful and reflective of the current kaleidoscope of conflicting realities than an adversarial adjudicatory format could achieve.

4 Concretising climate justice by affinitive juxtapositions

I started writing this essay from a perspective of cruel pessimism, which expects the absence of legal 'force', rather than expecting climate justice designed around human rights to lead us into a cruel optimism of human rights. Yet these perspectives are perhaps not all that different from one another. Derrida conceived law, or the meaning of legal difference, as a permanent radical opening, as "a question of ... all the paradoxical situations in which the greatest force and greatest weakness strangely enough exchange places" (1990: 929). I do not expect the nomenclature and rhetoric of climate justice to reveal or deliver justice.

However as an 'internal' point of view-agnostic-critical legal scholar, who diagnoses how law works with pessimistic hope, I can trace and try to explain how the components in the system work and how to think about and with legal materials when justice is uncertain and unknown: which jurisdictions were claimed or not, how the claim was framed, which principle was invoked or not - tort, property or human rights -, what kind of evidence was oral and/or in the form of a written submission, which testimonies were invited, whether to record and livestream the hearings, the depth of financial pocket to sustain the proceedings... These are the materials and ingredients for a practical strategy or diagnosis of the necessarily contingent practice and artifice that is law. It is the specific composition of these elements and their relations to one another within particular legal rhetorical and practical framings that I mean when I use the word "concrete". To make legality concrete is to identify and observe the different

elements of the overall practice, how they relate, and what they do in such a process. I do not know for certain what justice is, and it is nothing insightful or novel to say that law fails it, but I can try to analyse and explain the texture of legal composition as it is practiced and the dynamic of a problematisation. Understanding the "plumbing" inside-out by diagnosing the particular ways in which the constitutive materials are linked to form an emergent legal matter could yield a more specific understanding of the often seemingly inextricable legal apparatus, abbreviated monolithically as 'the law' and the mechanisms of its stabilisation. This in turn might yield different strategies towards different ideals of justice; or at least, it might help us to understand law's paradoxes and particular failures of justice's absence.

A contextualised, historically and theoretically informed notion of legal materiality is well suited to dissect and perceive shifts in scales and frameworks of reference. In the Carbon Majors Inquiry, 'climate justice' was materialised as a legal matter through specific locations, media and formats. The practices, utterances, presences, gatherings in the hearing and their textual and visual recordings were the constitutive factors for enacting the "matters of concern" of 'climate' and 'justice' although the whole of 'climate justice' was yet undefined and may remain so. Nonetheless, the mediated aesthetics and spaces of the inquiry, climate models, speech acts shaped the emergent legal matter of climate justice despite a lack of jurisdiction.

During the hearing, the Commission evaded the question of causality. This muteness reflects Lord Hoffmann's observation that "causal requirements [in law] are creatures of the law and nothing more" (2011: 5). Instead of causality, the primary mode of relationality of the hearing was a different one, something I would characterise as *affinitive juxtaposition*. The hearing engendered a spatial and linguistic association between climate science and human experience by bringing together abstract scientific and personal knowledges and their different ways of knowing (by mathematical models and by narratives) into a common space. The Commission withheld from explicitly drawing relations between them. It also did not translate the concept of climate into a

legal idea of justice, nor did it transpose it. Rather here 'law' seemed to act as a distinctive attribute ('legal' testimony, 'legal' file, 'legal' inquiry) that imbued a shared quality amongst elements that had otherwise not much in common. The legal inquiry conjoined words, people and things loosely despite compressing climatic space and historical times into two days in a medium-sized room. The mere juxtaposition of diverse knowledges of the same problem (climate change) with its different phenomena produced associations: greenhouse emissions became associated with legal responsibility. But beyond this, there was no co-functioning that is characteristic of an assemblage (Deleuze & Parnet 2002: 52), no stickiness of knotty entanglements (Haraway 2007: 287) and no entangling patterns of diffraction (Barad 2014). These may emerge in the future. For now, the only relationality between the materials was the differentiating practice of the Inquiry itself: the attribution of certain materials (witnesses, testimonies, presentations, graphs, numbers, narratives, moot court room...) as 'legal'. The hearing invoked affinities between disparate parts through juxtaposition, that is to say, a literal putting-next-to-one-another.

The hearing in London did not mention or consider earth, or non-human entities, as legal agents. This is not surprising considering that the figure of earth is not a central component in both concepts of climate and justice. Despite Lovelock's Gaia theory, Latour's invocation of 'earth' as a political actor (2018) and Povinelli's conception of "geontopower" (2018), earth is not (yet) a legal actor. Earth still needs to be 'incorporated' in law. Even if mountains are recognised as legal personae, they need friends to advocate on their behalf, to paraphrase Miguel Tamen's book title, *Friends of Interpretable Objects*. Earth also needs friends to speak on its behalf. Yet I wonder whether the resort to human rights in face of a planetary and multi-species existential obliteration seems akin to asking nuclear scientists to assert their rights of nuclear research in light of nuclear warfare. Is the anthropocentric response to a problem caused by a peculiar kind of anthropocentricism - disembodied, rationalist and extractive-capitalist-imperialist - an inimical response to the effects of climate change? Is the human rights focus of the 'climate justice' movement re-enforcing an understanding

of global warming as a crisis for primarily humans? I remain conflicted between the conceptual contradiction of invoking the rights of the species that have caused the issue in the first place and recognising the need for an efficacious legal pragmatic strategy in order to reduce carbon emission down to zero. Malm (2018), for example, rejects the hybridisation of the human/non-human and the nature/culture binaries. He criticises the Latourian concept of *actant* and new materialist ideas of innate non-human agencies as diluting our responsibility to act. It is, however, not obvious, at all, that anthropocentric human rights law, or indeed legal avenues, are the right means to the end. Law has so far been a most impotent mode of human regulation in the face of the large-scale problem of climate change, which also affects other kinds of beings than humans.

My discomfort with human rights law as a truthful strategy might perhaps be alleviated if we diluted the human/non-human dichotomy. For our human language and discourses are not only our exclusive, purified domains, even in the realm of legal language which attempts to distinguish between 'legal' codes and materials and non-legal others. Human language is based on and surrounded by noises, as Lingis writes:

> The noise is not analytically decomposable, as communication theory would have it, into a multiplicity of signals, information-bits, that are irrelevant or that conflict... The noise figures as resonance and vocalization that, like the scraping wings of crickets we hear, contains no message [although crickets communicate in the ultrasonic range, too high for human ears to hear.] ... For we too communicate what we communicate with the background noise, and we communicate the background noise. (1994: 47-8)

The noise surrounding the Carbon Majors Inquiry is arguably even thicker, mixing the natural with the artificial. Added to the forceful "vibrancy of the land, the oceans and the skies" which move, rain and rise up, we also have the effects of oceanic cables, youtube videos, internet pages, camera angles and skype connections that represent these natural phenomena in other ways than as "noise". We have multiple human actors: victims of typhoons, legal commissioners,

migrants, activists, lawyers, scientists, academics and journalists who share physical and online spaces with varying intensities. They are the ones which introduce the "noise" of anomalous climate and unattainable justice into the purified legal music of 'human rights' and corporate personhood. Already the noise might overwhelm any attempts to distinguishing them from 'legal' communication. At the hearing, there was no communication, but a calm sequence of cacophonic noises.

Kohn's *How Forests Think* (2013) employed Charles Peirce's understanding of icon and index to make sense of non-human/human semiotics. The challenge for legal reasoning and imagination consists in "attending to the ways in which our linguistic, cognitive and bodily habits exist in relation to the world and emerge as a higher level of patterning against constraints around us" (Anker 2017: 208). I would add that such an imagination ought not only entail thinking law metaphorically in the modes of *as* or *as if* (Roger and Maloney 2017). Analogies and mimesis connect different knowledges via similarity, but also tend to privilege patterns of what we already know. We ought to make analogical explorations more careful by paying attention to particularities, that is to say, incorporate "respect for contextual, academico-institutional, discursive specificities, mistrust for analogies and hasty transpositions, for confused homogenizations" (Derrida 1990: 933). Jurisprudential analysis has much to learn from the detailed studies of non-linguistic representation, visual or modal relationality and communication found in history of science (Hoffmann 2017), art theory (Stafford 2001; Weigel 2015) and musicology (Dahlhaus 1968/1990; Pesce 1987), as well as from other kinds of semiologies and world views (Anker 2017) that can enrich and complicate law's dominant tradition of written texts and narratives (Constable 2014).

In law, in light of the finite little living organisms that we humans are, the scale of our importance is in an inverted and also perverted relationship to the planet. Such is the construction and practice of legal materials based on human communication, language, and their media of representation. In an anti-Copernican mode, in law, the world is comprehensible only if it revolves around it, and us, humans. In the

legal hearing, climate and justice are materialised and particularised into human narrative scale. This occurs by resorting to the universal principles of human rights. Climate justice advocates in the Philippine human rights inquiry entrench a clear distinction not only between human and non-human actions, but also between corporations and human. They enlist different materials - from climate data, research papers to eyewitness statements of typhoon Haiyan - to construct a legal matter from the standpoint of human. It may be a more efficacious as a strategy than representing or speaking on behalf of, for example, an ocean or giving legal standing to a river.

Yet there is an undeniable gap between the ideals of universal human rights and of climate justice. Human rights claims cannot give justice to 'climate'. Also it is not clear if 'justice' makes sense to earth, fauna, flora. They may not perceive 'justice' as such. Perhaps justice is sought for 'non-humans' in solidarity and with the help of some humans who are treated as 'non-humans' and who are already at the receiving end of global warming. The legal performance of 'justice' through and in its materials (human rights categories, legal spaces, media technologies, filings, testimony of claimants, scientists, lawyers, ethicist, video recordings) may be incomplete and insufficient to represent and address the totality of climate change. Nonetheless it helps to particularise and 'scale down' a scale that is vast, probabilistic, rhetorically and technoscientifically mediated. It is our prosthetic 'sensory apparatus' of making and knowing climate change on a more human scale. Although it describes past events and experiences, 'climate change' as a reality denotes a statistical anomaly based on scientific models. These scientific numbers cannot be experienced in totality. We cannot feel a calculated probability. Arthur Koestler wrote that "statistics don't bleed; it is the details that count. ... We can only focus on little lumps of reality" (1945: 97). Turning of 'climate justice' into a legal matter is then perhaps the difficult and fraught attempt to form "little lumps of legal reality" without a claim to representational veracity of the relationship between nature, earth, non-human and humans. It will result in representational violence to the majority of (non-human) lives and organisms, but law's absence will, too.

Endnotes

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1. Thanks to Henrique Carvalho who pointed out this paradox of double-identities, or simultaneous locations, to me so clearly.
2. On the figure of scale as balance and non-existent justice in such a balance, see Biagioli in *Critical Inquiry*, 2018.
3. "I have often called for vigilance, I have asked myself to keep in mind the risks spread by this word, whether it be the risk of an obscure, substantialist, occulto-mystic concept or the risk of giving authorization to violent, unjust, arbitrary force." (Derrida 1990: 929)
4. The Bhopal industrial disaster on 3 December 1984, was caused by an intentional non-compliance with Indian chemical safety regulation by the US-owned Union Carbide. Mieville (2015) recalls: "Between 8,000 and 10,000 people died that night. 25,000 have died since. Half a million were injured, around 70,000 permanently and hideously. The rate of birth defects in the area is vastly high. The groundwater still shows toxins massively above safe levels." Union Carbide settled out of court; its CEO was never extradited to India despite an arrest warrant. Union Carbide and Dow Chemicals, which bought it in 2001, did not respond to Indian court summonses. In 1991, the Indian Supreme Court accepted a settlement which had the result of voiding all claims against Union Carbide and protecting the company from future claims. Would it have been better if there *had* been legal 'violence' or force, particularly in light of the scale of the Bhopal catastrophe?
5. The outcome of the appeal of the *Urgenda* case in the Netherlands which holds the government accountable for breach of its climate-related obligations is expected for 20 December 2019 (CLI-number: ECLI:NL:PHR:2019:887). The case of the Swiss *KlimaSeniorinnen*

(Senior Women for Climate Protection) which claimed intergenerational rights and their violation of the government's failure in meeting its climate obligations has been dismissed as having no standing. Currently the case is on appeal at the Swiss Federal Supreme Court in Lausanne. For more details, see < https://klimaseniorinnen.ch/english/>. Both are litigations against states alleging a state's breach of its domestic and international legal obligations.

6. *Lliuya vs RWE. Case no. 2 O 285/15*. Litigation against private entity.
7. 005 petition number P-1413-05; response: 2006 11/16/2006-AA-3276727)
8. The intriguing cases are the ones which attribute responsibility to illegal harm or violation, for they have to prove a causal and/or probabilistically plausible chain of reference from action (or inaction) to an illegal effect, such as violation of property right (*Lliuya vs RWE,* see endnote viii), of fundamental constitutional rights of "life, liberty, and property" and of "reasonable safety, and that of the Posterity"(*Juliana, et al. vs USA, et al.*, case no. 18-36082, filed 2015, still ongoing at the US Ninth Circuit Court of Appeal, for more information, see <https://www.ourchildrenstrust.org/juliana-v-us>) or the Philippine Carbon Major Inquiry that is discussed here. For an overview of national and international laws and cases, see the climate litigation databases maintained by Sabin Center for Climate Change Law at Columbia University <http://climatecasechart.com> and the LSE Grantham Institute <http://www.lse.ac.uk/GranthamInstitute/climate-change-laws-of-the-world/>.

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