

Objectifying Climate Change: Weather-Related Catastrophes as Risks and Opportunities for Reinsurance

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Abstract

For quite some time, reinsurance companies have been pricing the ongoing climate change using weather- and catastrophe-related instruments and thus have been able to make money through climate change. Yet, at the same time, for reinsurance companies it is crucial that the likelihood of the events they underwrite is diminished as much as possible. Consequently, while profiting from the situation, these key actors of global capitalism also work to prevent climate change from taking place, and support the kinds of measures, on all political scales, that diminish the likelihood of severe climate change destruction. This article analyzes the materials that the reinsurance company Munich Re has distributed to stakeholders and asks how climate change is objectified by the reinsurance industry. How are weather-related catastrophes made into a financial risk and opportunity? The key conceptual tools for answering these questions are provided by Michel Serres's work on world-objects.

Keywords

climate change, reinsurance, risk and uncertainty, catastrophe, Michel Serres

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Introduction: Climate Change, Reinsurance and World-Objects

For the financial sector, climate change has brought about new challenges. Not only do the expected weather abnormalities, drought, mass movements and famine put capital at risk in new ways, but also, and relatedly, new kinds of opportunities emerge as regards the financialization of the biosphere on a planetary scale. At the core of global finance is reinsurance. Reinsurance has an infrastructure character in that it acts as a backup for the rest of the financial sector for which it pools, spreads, mitigates and redistributes risks. Its principal function is to provide cover for traditional types of insurance contracts, that is, to insure other forms of insurance. In relation to the challenges brought about by climate change, the meta-position of reinsurance companies is important: the information about risks and opportunities is condensed here, at the top of the food chain of global capitalism. From this position, reinsurance companies influence and shape the way in which the rest of the financial world thinks about climate change.

In order to give climate change an existence as a matter of concern, an enormous amount of work has been required, including the development of technologies, scientific knowledge and the establishing of various sorts of information networks.¹ Among such networks, the Intergovernmental Panel on Climate Change (IPCC) is the most widely known. It engages and involves a huge number of scientists, and is able to influence governments' and corporations' agendas as regards measures taken. Other important actors include all kinds of industries ranging from oil refinement, car manufacturing and plastic to alternative energy sources, not to talk about lobbyists and non-governmental organizations that actively work the public opinion in one way or another.

Focusing on the reinsurance industry, I study yet another actor that globally shapes climate change as a political and economic issue, but has not received the attention it deserves in this respect in the social scientific literature.² I am especially interested in the ways in which reinsurance mediates the appearance of climate change for other financial actors. Among multiple connections that make climate change an object of political economy, the reinsurance business is of particular importance. Following Bruno Latour and others on this point, my emphasis is on studying how mediations are not neutral and how they *translate* objects when making them present.³ The reinsurance industry is a mediating body that gives climate change a shape and presence; it objectifies and commodifies climate change as an uncertain phenomenon, yet presents it as manageable, at least to an extent.

Although it is Latour and his colleagues who have made the concepts of mediation and translation popular among social scientists, my theoretical

perspective here is primarily taken from a writer of an earlier generation, Michel Serres. Drawing on Serres's conceptualizations of objects, subjects and the collective, this article discusses two themes, and sees them as entangled. The first is how climate change is made into an object that can be a point of reference in economic and political discussions. To do this, I utilize Serres's concept of the *world-object*. Following Serres, I claim that to understand our collective existence, we have to look at the objects that circulate among us and that mediate our being together. That an object as large as global climate exists for us also creates a new kind of collective. Second, I will analyze how the reinsurance business, here exemplified by Munich Re, is able not only to objectify but also to advertise and commodify climate change while actively encouraging the public at large, national governing bodies and, especially, the financial actors to act urgently against it. As the reinsurance business enacts catastrophe risks as particular kinds of objects that circulate among financial actors, it also establishes the climate as a particular kind of world-object.

In what follows, I will start by laying out Serres's discussion on world-objects. After that, I introduce the field of reinsurance in general, and then explore in more detail the way in which Munich Re highlights weather-related catastrophes in its press releases. This sets the stage for the ensuing discussion where I use more systematically Serres's ideas to analyze the different kinds of circulations evident in the material. To conclude, I summarize the main findings on how weather-related catastrophes are presented as risks and as opportunities by the reinsurance business and how this contributes to the objectification of climate change for us.

Serres on World-Objects

In "Trahison: la thanatocratie", an essay published in 1974, Serres studies how the era of nuclear armament is characterized by governance through the threat of death. The gloomy text focuses on how science and knowledge became entwined with the war industry. While discussing ballistic missiles, Serres coins a new concept, the "world-object."⁴ It has remained central in his work ever since. Some sixteen years later, he defines it in the following manner: "Let's give the name *world-object* to artifacts that have at least one global-scale dimension (such as time, space, speed, or energy)."⁵ His examples for world-objects include a satellite for speed, an atomic bomb for energy and nuclear waste for time.

In the text on thanatocracy, Serres is horrified by world-objects; none of them seem to do any good—neither the ballistic missiles, satellites nor nuclear waste.⁶ Since then, new world-objects have emerged. For example,

many kinds of waste, such as carbon emissions or the extremely tiny pieces of plastic, move around the globe. It is worth noting that for Serres, world-objects are “artifacts,” that is, human made, but the majority of them seem to have come about without anyone actually wanting to produce them, as unanticipated results of human activity. Climate change is a case in point. Some others, such as the Internet or mobile telephone networks, have been purposefully designed to have positive effects, although their global reach has perhaps come as a surprise.

In order to understand what world-objects are about, it is useful first to have a look at how Serres defines objects in general. For Serres, “objects,” “subjects” and “collectives” are all functions of a circulating movement, and they are constituted by a reciprocal relationship.⁷ “There is no object without a collective, there is no human collective without an object.”⁸ According to Serres, something becomes an object when it circulates between other entities, and through this circulating movement connects these entities to each other. In other words, an object is an object in relation to the places, subjects and things it has a circulating relationship with. The entities that it touches become subjects. But no subject stands alone. A subject is constituted in relation to the circulating element and the other subjects that this element touches. Because of the fundamental relationality, Serres often talks about *quasi*-subjects and *quasi*-objects. Together they form a collective. To concretize the idea of collectives, subjects and objects being co-constituted, Serres often takes up the example of football. The players on the pitch become subjects insofar as they get to touch the object, the ball, and through passing the ball they become a collective. None of these attributes pre-exist the circulation of the ball.⁹

For most human collectives through the history, it has been reasonable to think about objects as “something placed before or presented to the eyes or other senses” (*Oxford English Dictionary*). World-objects change this. They cannot be objects of sense perception, rather can only be perceived through elaborate technologies that partly have helped to constitute them. At the same time, their circulating movement creates a whole new dimension for the collective existence. Instead of objects being simply outside of us, world-objects are both inside and outside of us. “We now live *in* those world-objects as we live in the world.”¹⁰

The core discovery of Serres’s book *The Natural Contract* is that the separation between what humans control and what they do not is not clear anymore; we have become dependent on our own ways of affecting nature. In other words, “nature” can no longer be thought of as an outside—human action is implicated in it. Yet, there is a loop where this nature thus humanized affects very much what humans can do. In other words, the survival or extinction of natural forms has become dependent on human action, which

for its part is dependent on the survival or extinction of natural forms thus conditioned.

Climate change is the paradigmatic case of such a loop. It is an object that we have made. We act upon the entire earth (and air), and the entire earth (plus air) acts upon us. Serres summarizes the idea thus: "The subject becomes object: we become the victims of our victories, the passivity of our activities. The global object becomes subject because it reacts to our actions like a partner."¹¹ Serres emphasizes that when the scale changes, the respective statuses of subjects and objects also change. "The objective status of the *collective subject* changes because from formerly active, it becomes the *passive, global object* of forces and constraints that result from its own actions; the status of the world-object also changes as, from formerly passive, it becomes active, from formerly a given, it becomes *our de facto partner*."¹²

In the following, I will use a Serresian approach for looking at the way in which the reinsurance business objectifies climate change, makes it circulate among us, and thus helps to make it a collective matter of concern. The reinsurance business creates circulating objects that gather a collective, but does this in a very particular manner. Insurance in general is a technology that relies on technical risk calculations, that is, calculations of probability that are multiplied with the estimated economic costs of harmful events. The world is seen in financialized terms and through the lenses of the aim of managing uncertainty. And as money is at the core of the relationships established by the insurance business, reinsurance colours and shapes climate change as a financial issue.

How does the reinsurance industry collect us and make us into a collective? And how is reinsurance entwined with climate change so that they together form an entangled object for the climate change/reinsurance collective?

Reinsurance and Munich Re

In the contemporary world, insurance forms an indispensable infrastructure in economic life. Without insurance, there would be no air traffic, freighters would not sail, skyscrapers would not be built, the production of electricity would be only very small scale, and surgeons would not operate. Insurance is the basic tool for managing economic risk.

Because of their meta-position in the field, reinsurance companies have an exceptional amount of information, knowledge and skill concerning the insurance business in general. Many traditional insurers operate in relatively limited geographical areas. However, reinsurance companies operate worldwide, and, while they provide economic backing for the more traditional forms of insurance, they also give guidelines for the levels of sound underwriting and

regulate other financial actors' activities. Further, because of their infrastructural position, they can also force their own estimates of what underwriting is sound and reasonable and what is not. From the point of view of other financial actors, the positive reverse side of this is that reinsurance helps to broaden the scope of risks that can be underwritten. In other words, reinsurance enlarges the risk pools that can be taken into consideration and helps traditional insurance companies to diminish their risk exposure related to particular instruments and thus to assume more risk with the totality of their instruments. This, of course, leads to the possibility of increasing revenue and capital flow for all actors involved.

The way in which reinsurance introduces climate change to other financial actors is important for at least two different reasons. First, reinsurance objectifies weather-related natural catastrophes against which it also provides economic protection and, as will be seen later in this article, advances the interpretation of these individual catastrophes as being indices of a broader phenomenon, that of ongoing climate change. Second, it also makes it possible to *invest* in climate change through either investing in the reinsurance company itself or through investing in the instruments that the company distributes in its own operations that aim to spread and manage risk. Yet, the importance of reinsurance companies' operations is not strictly limited to the financial realm. In addition, they are active in circulating the very concept of climate change within global economic thought and demonstrating how climate change should be each and everyone's matter of concern, on all scales of political life.

There are more than twenty reinsurance companies that operate worldwide. The largest are Munich Re, Swiss Re, Hannover Re, Lloyd's of London, Berkshire Hathaway and SCOR. Munich Re is said to be the largest of them: in 2015, it posted a profit of €3.1 billion. As the company stated in its Annual Report for 2015, it is "a leading global risk carrier." This article focusses on Munich Re and the materials it has made publicly available. While this entails a rather radical limitation in regard to the documents potentially available on reinsurance and climate change, I feel that for the purposes of the present article such a limitation is both necessary and unproblematic. It is unproblematic as Munich Re has a leading position in the field and can thus be said to represent well the scope of discursive possibilities that the reinsurance companies in general have for addressing climate change. Indeed, being a global leader gives Munich Re's public claims certain weight, which is of interest to social and political study. At the same time, limiting the analyses to the publications by one company is necessary for methodological reasons. One of the aims of this article is to clarify the way in which climate change is addressed by the reinsurance business. Of course, such an aim could be achieved in

multiple ways, but the path chosen here is to engage in close reading of some of the documents in which a central actor in the field explains the relationship between the reinsurance business and climate change. Instead of extensity, I aim for the kind of intensity in close reading that would be hard to achieve with a large amount of materials and within the limits of one article.

Munich Re issues many kinds of publications, the most important of which are, for an investor, financial reports, which come out three times a year and the annual report. For more flexible and up-to-date communications, Munich Re uses press releases. In addition, the company publishes a glossy magazine with lengthy feature articles called “Munich Re Topics.” The magazine also has a thematic issue, called “Munich Re Topics Geo,” which contains texts, reports and numbers on current affairs related to natural catastrophes; the special theme issue comes out once a year or biannually. For the purposes of this article, I have gone through three kinds of publications by Munich Re from 2009 to 2015: annual reports, press releases related to natural catastrophes and Munich Re Topics Geo. The presumed readers of these materials include investors, clients, government officials, as well as other stakeholders. Publicly available texts aim to inform readers, describing the state of the world and enlightening the reader. At the same time, they perform in the Austinian sense the financial market,¹³ that is, they help to make up a world where (re)insurance matters.

In the next section, I will present a number of press releases by Munich Re. The aim is, first, to describe how Munich Re addresses weather-related catastrophes around the globe and how it relates these to the more general theme of climate change. Second, the close reading of a small number of press releases casts light on the way in which the company shows itself to be *practically* involved in not only analyzing catastrophes and climate change but also being at the forefront of the attempts to adapt to their effects and to mitigate them. Finally, in its communications, the company actively constitutes these catastrophes and climate change in general as an opportunity for investors who join forces with Munich Re.

Introducing Reinsurance, Weather-Related Catastrophes and Climate Change to Stakeholders

As described by the press releases and the Munich Re Topics Geo magazine, natural catastrophes come in multiple forms, and they take place all over the globe. A tornado causes huge economic losses in Haiti; flooding does the same along the Elbe river; an earthquake in Modena destroys infrastructures and historical buildings; other earthquakes in Chile, China and New Zealand cause enormous amounts of human suffering in addition to demolishing

houses, roads and power plants; thunderstorms in Thailand force people to leave their homes and lose their sources of livelihood. Munich Re collects information concerning catastrophes and insurance worldwide, and redistributes some of this information to the readers of its publications. Through its operations, the company actively participates in creating and uniting the global financial sphere.

The following quote, from a press release discussing the earthquake in Chile in 2009, encapsulates the tone of the press releases while also summarizing the basics of the business:

Torsten Jeworrek, Munich Re's Reinsurance CEO, stressed: "Events like Chile's devastating earthquake reinforce our case for insisting that risks be consistently written at adequate prices, even after years where losses have been relatively low." At the same time, the past has shown that current loss experience heightens market players' awareness of the risks. As regards the renewals on 1 July 2010, (parts of the US market, Australia and Latin America), Munich Re therefore anticipates price increases in the loss-affected regions and business segments... "Whether production-facility or infrastructure losses, our job as reinsurers is to bear catastrophe burdens. Because we possess the necessary know-how, writing natural catastrophe business has always been profitable for us over the years."¹⁴

In only a few lines, the company is able to communicate multiple things. First, the earthquake in Chile is "devastating," terrible in many ways. Second, the fact that an earthquake does not take place often has to be taken into account by both the reinsurance company and its clients. It is truly a catastrophe: the likelihood of the event taking place is very low but, at the same time, the risks involved are huge, so they have to be adequately priced. Because of the losses now incurred, the company's clients understand the need for price increases. Third, the company is there "to bear catastrophe burdens," and it is positively able to do this. Despite the scale of the losses involved in an individual catastrophe, Munich Re is able to manage the risks and tame them successfully. The company highlights for the stakeholders its capacity to function as a reliable backup for all economic activities for which it has "the necessary know-how." Finally, not only is reinsurance economically important for those who want to guard themselves against catastrophes but it is also in itself worth investing in: "writing natural catastrophe business has always been profitable for us." The publications by Munich Re create a sense of catastrophes looming, happening all the time. But they are also able to repackage this uncertainty and both sell the company's capability to manage uncertainty and show that insuring catastrophes entails an investment opportunity.

A recurring theme in the publications by Munich Re is that during recent past decades economic losses due to weather-related catastrophes have

increased significantly. Of course, this is partly due to the amount of global economic growth; ever more human activity is valued in monetary terms, while human lives, infrastructures and material environments have gained in value as well. Hence, as there is more capital at risk, natural catastrophes thus incur bigger losses.

Yet, economic development is only one aspect behind the growth of weather-related losses. More significant is that the sheer number of catastrophes has increased markedly. An important feature of the communications by Munich Re is that different categories of catastrophic events—torrential rain, flooding, thunderstorms, drought and wildfires—are by the company brought together under one heading: climate change. In other words, although none of the individual incidents can in and of themselves be solely attributed to climate change, the company systematically talks about it as the larger phenomenon behind the more local events. During a six-year period beginning in 2009, Munich Re published twenty-three press releases on natural catastrophes of all kinds, thirteen of which explicitly mention climate change. A constant theme in the company's publications is that it is already happening now and its costs are huge.

In 2009, Munich Re overtly took up climate change as the main theme of a press release; this one is related to the Copenhagen climate summit, held earlier in the same year. The text is unambiguous about its disappointment with the global political community. The voice quoted is again that of Torsten Jeworrek, a board member of the company responsible for global reinsurance business. According to the press release, Jeworrek says that there has been a “marked increase in major weather-related natural catastrophes worldwide since 1950, the number now having more or less tripled.”¹⁵ He claims that the cost of weather-related natural catastrophes in the period since 1980 totalled approximately US\$1,600 billion and that climate change probably already accounted for a significant share of the losses. Jeworrek's conclusion is that, “in the light of these facts, it is very disappointing that no breakthrough was achieved at the Copenhagen climate summit in December 2009.”¹⁶ Here represented by one of its senior officials, the global financial actor Munich Re openly reveals its disappointment with the world political community; politicians are not seriously tackling the problems and challenges that climate change poses.

Immediately following the previous quote, the press release takes up a different theme, more at the core of the company's business, saying that “at Munich Re, we look closely at a multitude of risks and how best to handle them. Risks that change in the course of time are especially hazardous. Climate change is just such a risk of change.”¹⁷ In other words, although the losses related to climate change have grown, and will grow in the future quite

dramatically, in the end, the company can handle the situation as it is a specialist for analysing such risks of change.

The same press release then moves back to a more open political register, again quoting Jeworrek verbatim. Here, the spokesperson for the company could just as well be representing Friends of the Earth or any other radical environmentalist lobby: “We need as soon as possible an agreement that significantly reduces greenhouse gas emissions because the climate reacts slowly and what we fail to do now will have a bearing for decades to come.”¹⁸ Urgent action is needed. We need to take responsibility for the future generations. With such demands stated for others, it is more than natural that the company itself would rise to the occasion with the means available. To finish off the press release, the company explains what the knowledge concerning climate change implies for its own action. “Consequently, Munich Re will now drive forward its own initiatives with even greater commitment—investments of up to €2 billion in renewable energy, for instance, or the Desertec desert-power project.”¹⁹

In this press release, Munich Re is again able to show many sides of its operations. First of all, in climate change the company recognizes the birth of a major global threat that demands joint action. Second, Munich Re promises to “bear the burden,” and to help those who suffer from the catastrophes—provided they have had the foresight to take out insurance policies. The implicated message here is that this insurance company will remain solvent no matter what size the catastrophe. It is responsible both in financial *and* in ecological terms: the company informs its readers that its Munich headquarters were made carbon-neutral in 2009. Third, Munich Re does not shy away from political views; it scolds the powers who have failed to bear *their* burden and have failed to act in a way that would be of the right magnitude. Finally, all of its operations are made in view of making profit. Not only are catastrophes underwritten to their fair value but the company is also an active investor—and the investments it makes are both profitable and environmentally sound.

In the following year, climate change is thematized in relation to the opportunities presented by the general economic development of China.

On average, seven typhoons make landfall in the country each year. Many climate researchers assume that, whilst the number of typhoons may not rise in future due to climate change, they could be more intense. Climate change also causes glacier melt, torrential rainfall and rising sea levels in China. Munich Re is actively involved in China’s insurance market as it gradually opens up, working with other companies to develop the market and find new solutions for the major natural hazards.²⁰

Not only is China an interesting case for a reinsurer because of the prediction that the amount of catastrophes will increase but also because the insurance market in general is opening up and developing. Never downplaying the severity of threat posed by climate change, both in terms of human suffering and economic losses, for Munich Re it clearly also presents an opportunity.

Later during the same year, another press release again starts off with China. Here, the entanglement of risks and opportunities presented by climate change is spelled out in even clearer terms.

In China, an estimated 200 million people are impacted by natural catastrophes every year. The rising number of severe weather-related natural catastrophes, also due to climate change, is increasing losses and impacting economic development. Innovative insurance solutions can help those affected to mitigate the impact of climate change and to adapt to the changing environment. Munich Re sees opportunities for insurance companies which take the lead in providing new forms of coverage, from renewable energy production to carbon trading.²¹

Here, the company promises to help cope with the changing environment, not with traditional forms of insurance, rather what is now needed and what the company promises to deliver are “innovative insurance solutions.” When such solutions are at hand, not only is it possible to mitigate the impact of a catastrophe, but climate change becomes an opportunity.

The lengthy press release then goes on to develop a bit further the relationship that the company’s operations have with climate change.

Climate change and its consequences are a strategic issue for the reinsurer, as they directly impact its core business. Firstly, the growing number of severe natural catastrophes is giving rise to greater loss potential. Secondly, combating climate change is opening up new business segments, creating opportunities for the insurance industry, but also for countries that are leaders in innovation, which certainly include China.²²

Munich Re is very clear about the status of climate change in terms of its business: it is “a strategic issue.” The core of all insurance is to cover clients’ loss potential. With the growing number of climate-change-related catastrophes and with ever more value at risk, such potential is also growing, and so is the market for insurance. But to grab a share of this growth requires “innovative insurance products and new coverage concepts,”²³ as the company’s CEO says at the opening of the Group’s climate summit. Finally, the press release makes it clear that the company is not a newcomer to the field.

Munich Re has been analysing the consequences of climate change for more than three decades. For risk analysis purposes, the Group has developed the world's most comprehensive database on natural catastrophes. This includes information on the impact of natural catastrophes on economies, the insurance industry and people's lives. Munich Re's Geo Risks Research unit helps to keep natural hazards insurable and can assist with advice on prevention measures.²⁴

Who would one consider has the best data on natural catastrophes and their impact? An enlightened guess would perhaps be that it is the scientists, maybe the United Nations or an internationally coordinated organization such as the IPCC. In fact, according to its own statement, the real forerunner and information bank on the issue is Munich Re.

To sum up this section, Munich Re, a global leader in insurance, communicates very clearly to its audience its position vis-à-vis climate change. It is outspoken about the political and economic significance of the issue that, for its own operations, is also strategically central. The company claims to be a world leader in terms of knowledge concerning the phenomenon. Importantly, this is not only a question of having information, but through its calculations and the launching of innovative insurance instruments, the information is turned into financial tools. These tools are to be put to multiple uses. For the insured, they guard economic value. For other financial actors, the tools themselves—bonds, catastrophe swaps, derivatives and multiple types of innovative financial contracts—become objects that can be bought and sold.²⁵ Finally, through the capability of making money with these instruments, the company itself gains value and becomes worth investing in. Through these translations, climate change is objectified and is attached to the insurance company, the value of which it enhances. The knowledge that the company controls, distributes and profits from is *practical*. Munich Re does not remain idle in a new situation but, in contrast to the global politicians it scolds and accuses of passivity, it *acts* in the here and now. Simply put, Munich Re is able to make the world's natural state *interesting*, in the two meanings of the word: it is interesting in terms of being worth *attention*, as we are all implicated and affected by the repercussions; but it is also interesting in terms of being worth *investing* in, for those who seek interest.

The Objects of Reinsurance

After exploring the way in which Munich Re represents catastrophes and its own activities, it is time to revisit Serres's thematization of objects and world-objects. What kinds of circulations can one detect in the publications by Munich

Re and what are the corresponding objects, subjects and collectives? For analytical purposes, at least six categories of circulations can be distinguished.

Obviously, one should begin with the circulating press releases and magazines themselves. The collective they gather has, as the lowest common denominator, the fact of receiving and reading the publications by Munich Re. There is no point in overemphasizing the cohesion of such a collective that barely merits the name. Yet, it is also evident that the collecting element of a Munich Re press release is one among many similar that circulate among the financial elite of the world; its routes have been moulded by previous circulations and are travelled simultaneously by other quasi-objects, some of them quite intangible, such as the business education that, for the financial elite, to a large extent is the same everywhere across the globe, or the news-feed shared around the world, not to talk about a similar lifestyle. The more circulations there are that overlap or are attached to each other, the stronger their joint movement becomes.

Second, the publications circulate the contents of the messages. In a sense, they function as containers that transport the world to the recipients. The world thus transported is simultaneously formatted to become information. In other words, although the publications evidently consist of texts, stories, pictures, tables, numbers and calculations, they are also made up of the events they report; their whole point of existence is their capacity to refer credibly to the world outside and carry it so that the readers can relate to it, make the far away world of catastrophes present in the here and now.²⁶ The reader becomes familiar with earthquakes, flooding, droughts, wildfires, torrential rain, tornadoes, melting glaciers, air pollution, crumbling infrastructures, insured property and human suffering. In the *Topic Geo* magazine, these are pictured in graphic detail with great aesthetic sense. Catastrophes gain an aura of sublime. The heterogeneity of these elements forms the catastrophe information meshwork for the readers of Munich Re publications.

The effort of putting together an assembly of heterogeneous elements is significant and deserves a pause here. An important aspect of these publications is how they do classificatory work and how they are able to assemble and compile entities. Headings such as “catastrophes” or “economic losses” are shared by most events that by their nature are hugely different from each other. Many of them are categorized as “weather-related catastrophes”; behind the latter, there is the general category of “climate change.”

In addition to the ability to group heterogeneous phenomena, another aspect of presenting the world to the reader that merits attention is the way in which the time implied by catastrophes is rendered something that is manageable. Namely, not only do the publications present disastrous events that have already taken place, but their whole idea is to make it evident that firstly, such

events will take place in the future too, and secondly, that with the help of the insurance company these future events are to an extent insurable; one can act on the uncertain and potentially catastrophic future in the here and now.²⁷

A singular disastrous event can have bad consequences that have repercussions; but when catastrophes are analyzed as a group, and this group of events is related to the measuring of time, both past and future, they can be insured. Through its archives and its simulation work, a reinsurance company can start to circulate not only those catastrophes that have taken place and the consequences that we have knowledge of, but also those that have not happened thus far, yet *can* happen. Uncertainty is circulated in forms that to an extent tame it, as probabilities.²⁸ And when these probabilities are linked with the monetary value of losses, what starts to circulate is *risk* in the technical sense of the concept.²⁹ The categorization of various heterogeneous catastrophic events into risk groups, the special relationship with time that the insurance industry develops, and the multiplication of likelihoods of losses with their monetary value are the three basic features of insurance rationality that come together to form the technical concept of risk; this concept of risk is also the underlying principle behind all communications by Munich Re. As a matter of fact, the concept of risk should in itself be distinguished as a specific kind of circulating quasi-object, distinct from the events described by press releases and other publications, and therefore, the third form of circulation in the present listing.

Fourth, the insurance company itself, the institutionalized carrier of risk calculations, circulates and garners attention through its publications. The know-how possessed by the company is circulated, its expertise is highlighted and influential scientists working for the company and board members are introduced to readers. Munich Re is presented as a strong actor influential everywhere that catastrophes take place, or at least potentially everywhere. Munich Re itself becomes a world-object.

Yet, fifth, the company would not be “a leading global risk carrier,” as it claims to be in its 2015 annual report, unless its operations were substantially about money. Contemporary worldwide financial markets allow money to circulate everywhere, to be another world-object. In fact, it is impossible to say which comes first, the circulating element of money or the circulating action of a global corporation; it is clear that they co-constitute each other. While every catastrophe has its own character, and while they belong to very different categories—such as drought, wildfire, earthquake, flooding—what they all have in common is that they have monetary value and, most importantly for the insurance company, thus are potentially insurable. Indeed, when discussing particular catastrophes, the company reports dutifully the exact amounts of total economic losses, and relates these to how a large part of them were insured.

Sixth, and finally, we arrive at a major point of the exercise presented in this article, a point that forces one to reconsider Serres's conceptualization of objects, subjects and collectives. Serres's idea of the collective as a group of football players, subjected to the movement of the ball, is revealed as both illuminating yet too simple. As regards its usefulness, it is easily operationalizable, for example, as I have done in this paper, for dissecting different circulations that take place in the financial world. Yet there are clearly more than few circulations that one can follow. Indeed, this observation leads to the need to *complicate* the scheme. It seems that it is impossible to follow one circulation at a time without simultaneously analyzing its way of being attached to other ones. Right away, when one starts to analyze a phenomenon such as climate change, through the lens of a reinsurance company's publications, it is clear that it consists of multiple circulations that are bundled and that each circulation is made of other circulations.

In the publications by Munich Re, climate change is made to circulate in a form that is intimately attached to global flows of money and investments, and to the way in which the company itself is able to maintain a presence in most remote catastrophe areas of the world. None of these circulations would matter in and of themselves as much. But when they are entwined or amalgamated, they gain force and become much more important than any of them would be. A network of influences emerges, where it is easy for a reader of Munich Re publications to recognize that climate change is a financial issue and that, vice versa, if you want to secure your economy or your profit from your investments, you should mind climate change; and for both concerns, the global company is there to inform you, to help you—and to offer a great (world) object for investing in.

Conclusions

This article had two aims: the first was to explore Michel Serres's conception of objects, subjects and collectives as co-constituted, and his insistence that with the emergence of world-objects such as climate change, also our collective being together emerges as changed. Second, I applied Serres' conceptualization to the specific case of reinsurance and the way in which it objectifies climate change and makes it circulate among us; the particular materials studied were recent publications and press releases by Munich Re.

The study highlights that the collective formed around the object of financialized climate change, mediated by the publications of Munich Re, is, in fact, formed as an entanglement of many circulations and around a heterogeneity of objects on many scales. Of course, this is not to downplay the importance of the factual change in the climate that Munich Re sees behind various

kinds of weather-related catastrophes. Yet, at the same time, climate change appears for us as also consisting of press releases, economic value, expertise and so on; the change in climate itself gains a further reality by being attached to human suffering, risk calculations and financial instruments. There is a convergence and joint movement of multiple worldwide circulations where they together constitute complex bundles of objects, and new kinds of complex collectives.

To conclude, what emerges through the close reading of Munich Re's recent communications is the understanding that the company's practical orientation vis-à-vis climate change combines positions that, for most analysts of the political economy of climate change, are not usually seen as intertwined. On the one hand, reinsurance is at the apex of extractive capitalism (at the top of the food chain of capitalism): it extracts value from non-existing future events, uncertainties, natural catastrophes and the biosphere. On the other hand, and at the same time, reinsurance companies are leading global actors in enlightening governments, investors and stakeholders about the horrors of climate change. Their message is that there is urgency for environmental action. Finally, however, the very sense of urgency itself is reterritorialized as a business opportunity for reinsurance companies.

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Notes

1. Paul Edwards, *A Vast Machine. Computer Models, Climate Data, and the Politics of Global Warming* (Cambridge, MA: MIT Press, 2010); Bruno Latour,

Face à Gaïa. Huit conférences sur le nouveau régime climatique (Paris: La découverte, 2015).

Of course, to underline the multiplicity and heterogeneity of climate change as a phenomenon is not to take anything away from the notion that it is real. Quite the contrary, it is a case of seeing existence itself as fundamentally relational. Such an ontological view has been developed by Bruno Latour, among others. According to him, the more relations a thing has, and the more stable these relations are, the more the object in question exists; indeed, thus conceived existence and reality are not questions of either/or, rather existence is seen as being gradual, being a question of more or less. On this theme, see Bruno Latour, *Science in Action. How to Follow Scientists and Engineers through Society* (Cambridge, MA: Harvard University Press, 1987) and Latour, *Aramis ou l'amour des techniques* (Paris: La découverte, 1992).

2. This is notwithstanding the high quality of the already existing social scientific scholarship on weather-related catastrophes and insurance; for representative work, though from a different perspective than the present article, see for instance Philip D. Bougen, "Catastrophe Risk," *Economy and Society* 32, no. 2 (2003): 253–74; Philip D. Bougen, "The 'Becoming' Insurable of Terrorism Risk in the US: Imagining Systemic Risk," *Limn*, no. 1 (2011): 20–21; Stephen J. Collier, "Enacting Catastrophe: Preparedness, Insurance, Budgetary Rationalization," *Economy and Society* 37, no. 2 (2008): 224–50; Stephen J. Collier, "Neoliberalism and Natural Disaster: Insurance as a Political Technology of Catastrophe," *Journal of Cultural Economy* 7, no. 3 (2014): 273–90; Richard V. Ericson and Aaron Doyle, *Uncertain Business: Risk, Insurance and the Limits of Knowledge* (Toronto: University of Toronto Press, 2004); Paula Jarzabkowski, Rebecca Bednarek, and Paul Spee, *Making a Market for Acts of God. The Practice of Trading in the Global Reinsurance Industry* (Oxford: Oxford University Press, 2015); Leigh Johnson, "Climate Change and the Risk Industry: The Multiplication of Fear and Value," in *Global Political Ecology*, ed. R. Peet, P. Robbins, and M. Watts (London: Routledge, 2010), 185–202; Leigh Johnson, "Geographies of Securitized Catastrophe Risk and the Implications of Climate Change," *Economic Geography* 90, no. 2 (2014): 155–85; Luis Lobo-Guerrero, "Insurance, Climate Change, and the Creation of Geographies of Uncertainty in the Indian Ocean Region," *Journal of the Indian Ocean Region* 6, no. 2 (2010): 239–51.
3. Michel Callon, "Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fishermen of St Brieuc Bay," in *Power, Action and Belief: A New Sociology of Knowledge?*, ed. John Law (London: Routledge, 1986): 196–223; Antoine Hennion, *La passion musicale: Une sociologie de la médiation* (Paris: Métailie, 1993); Bruno Latour, *Pandora's Hope: Essays on the Reality of Science Studies* (Cambridge, MA: Harvard University Press, 1999).
4. Michel Serres, *Hermès III: La traduction* (Paris: Minuit, 1974), 101.
5. Michel Serres, *The Natural Contract*, trans. Elizabeth MacArthur and William Paulson (Ann Arbor: The University of Michigan Press, [1990] 1995), 15. For other places where Serres defines and uses the concept, see, e.g., *Revisiting*

the Natural Contract, trans. Anne-Marie Feenberg-Dibon, <http://www.ctheory.net/articles.aspx?id=515>, [2000] 2006; *La guerre mondiale* (Paris: Le pommier 2008), 176–80; *Temps des crises* (Paris: Le pommier, 2009), 23, 51–55; *Pantopie: De Hermès à Petite Poucette: Entretiens avec Martin Legros et Sven Ortolí* (Paris: Le Pommier, 2014), 179.

6. Serres, *Hermès III*, 102.
7. See especially Michel Serres, *Rome: Le livre des fondations* (Paris: Grasset, 1983), and *Statues: Le second livre des fondations* (Paris: Bourin, 1987). Although by now a number of introductions to Serres's philosophy exist, thus far his conception of the collective has not yet received the attention it deserves among social and political scientists. The best general introductions are the two interview books: Michel Serres, *Eclaircissements. Entretiens avec Bruno Latour* (Paris: François Bourin, 1992) and Serres, *Pantopie*. Other useful introductions include Niran Abbas, ed., *Mapping Michel Serres* (Michigan: University of Michigan Press, 2005); Maria L. Assad, *Reading with Michel Serres. An Encounter with Time* (Albany: State University of New York Press, 1999); Steven D. Brown, "Michel Serres: Science, Translation and the Logic of the Parasite," *Theory, Culture & Society* 19, no. 3 (2002): 1–27; Steven Connor, "Topologies: Michel Serres and the Shapes of Thought," *Anglistik* 15 (2004): 105–17; Alessandro Delcò, *Morphologies. À partir du premier Serres* (Paris: Kimé, 1998); and François L'Yvonnet and Christiane Fremont, eds., *Michel Serres* (Paris: L'Herne, 2010).
8. Serres, *Rome*, 107–8. Of course, that an object is born with and for the collective does not mean for Serres that the world can be reduced to human practices or interpretations of it. Serres is as far from social constructionism as one can get. His basic idea is twofold: on the one hand, Serres is strict about the human collective always requiring non-human (or more-than-human) stuff to be interwoven in its practices in order to exist; this stuff becomes its objects. On the other hand, for Serres the great achievement of science is that it has opened the possibility for the collective to see the world as being much more than *just* objects for the collective. On this point, see, e.g., Serres, *The Natural Contract*, 45.
9. Such an idea of objects, subjects and collectives is omnipresent in Serres's oeuvre, but most detailed in the two books from the 1980s that study "foundations," *Rome* (1983) and *Statues* (1988).
10. Serres, *Revisiting the Natural Contract* (no page numbers). In many respects, Serres's world-objects resemble what Timothy Morton calls "hyperobjects" in *Hyperobjects: Philosophy and Ecology after the End of the World* (Minneapolis: University of Minnesota Press, 2013). However, in contrast to Morton, Serres does not engage in systematic metaphysical discussions concerning the concept. In the context of the present paper, the simplicity of Serres's conceptualization is a virtue as it renders it easier to operationalize the concept for the purposes of examining reinsurance and climate change, as presented in the publications by Munich Re.
11. Serres, *Revisiting the Natural Contract* (no page numbers).

12. Ibid.
13. See Michel Callon, ed., *The Laws of the Markets* (Oxford: Blackwell Publishers, 1998); Donald MacKenzie, *An Engine, Not a Camera: How Financial Models Shape Markets* (Cambridge, MA: MIT Press, 2006).
14. Munich Re press release, June 8, 2010; from here onwards quoted as MR.
15. MR, December 29, 2009.
16. Ibid.
17. Ibid.
18. Ibid.
19. Ibid.
20. MR, February 25, 2010.
21. MR June 22, 2010.
22. Ibid.
23. Ibid.
24. Ibid.
25. What facilitates their liquidification and flow as commodities is that particular contracts can be sliced, packaged and sold in pieces to investors. The specific instruments with which reinsurance operates are worth a more detailed study which, unfortunately, is not possible within the scope of the present paper; for good examples of such studies in social sciences, see *supra*, endnote 3, and especially Jarzabkowski et al., *Making a Market for Acts of God*.
26. Cf. Bruno Latour, "Circulating Reference: Sampling the Soil in the Amazon Forest," in *Pandora's Hope: Essays on the Reality of Science Studies* (Cambridge, MA: Harvard University Press, 1999), 24–79.
27. On insurance companies' ways of communicating with their potential customers, see for example, Tom Baker, "Constructing the Insurance Relationship: Sales Stories, Claims Stories, and Insurance Contract Damages," *Texas Law Review* 72 (1994):1395–1433; Turo-Kimmo Lehtonen, "Picturing How Life Insurance Matters," *Journal of Cultural Economy* 7, no. 3 (2014):308–33; Liz McFall, *Devising Consumption: Cultural Economies of Insurance Credit and Spending* (London: Routledge, 2014); Viviana A. Rotman Zelizer, *Morals and Markets: The Development of Life Insurance in the United States* (New Brunswick: Transaction Books, 1983).
28. The classic depictions of managing uncertainty through probability calculations are Alain Desrosières, *The Politics of Large Numbers* (Cambridge, MA: Harvard University Press, 2002); Ian Hacking, *The Taming of Chance* (Cambridge: University of Cambridge Press, 1990); Theodor M. Porter, *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life* (Princeton, NJ: Princeton University Press, 1995).
29. On the concept of "risk" in the context of insurance, see especially François Ewald, *L'État providence* (Paris: Bernard Grasset, 1986).

Author Biography

Turo-Kimmo Lehtonen is professor of sociology at the University of Tampere since 2012. His previous appointments include the posts as fellow (2005–2009; 2012–2014) and as the deputy director (2013–2014) at the Helsinki Collegium for Advanced Studies, and as professor of sociology at the University of Helsinki (2009–2012).

Lehtonen's present work centres on three topic areas. First, he works on the management of uncertainty and on the uses of financial technologies. Especially, he has examined how life, health and death are commodified in the contemporary practices of insurance, and how the dynamic relationship between social security and markets shapes the conditions of existence for people. In his other empirical project, Lehtonen studies freeganism and dumpster diving and, more generally, the role of waste in the contemporary way of life (jointly with Olli Pyyhtinen). As an alternative way of life, freeganism brings very clearly to the fore contemporary ideals and practices related to consumption, food, cleanliness, gift giving, proprietary rights and waste management. Finally, Lehtonen's theoretical work addresses, from many angles, the basic question concerning the nature of collectives. He has published a monograph in Finnish on the theme of materiality and social sciences (*Aineellinen yhteisö*, in English *The Material Community*, Tutkijaliitto 2008). In addition, he has published studies on authors such as Georg Simmel, Bruno Latour, Michel Serres, Gilles Deleuze and Ian Hacking, among others.

Lehtonen's most recent publications include "Producing Solidarity, Inequality and Exclusion through Insurance," *Res Publica* (2015, jointly with Jyri Liukko); "Picturing How Life Insurance Matters," *Journal of Cultural Economy* (2014); and "Latour's Empirical Metaphysics," *Distinktion* (2016, jointly with Nora Hämäläinen). He has also co-edited, with Ine Van Hoyweghen, a special issue on the "Economization of Uncertainty," *Journal of Cultural Economy* (2014).