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Denise Jodelet
Jorge Vala
Ewa Drozda-Senkowska *Editors*

Societies Under Threat

A Pluri-Disciplinary Approach

Springer

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Volume 3

Series Editor

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Foreword

What is the purpose of the humanities and social sciences? No sooner is the question asked than we usually get an emphatic response to the effect that they must not be defined in terms of any sort of purpose. This would lay them open to the risk of being used by the authorities or even by the opposition.

This is understandable but does not prevent us from considering the knowledge which they produce as serving a purpose—namely that of raising the capacity for analysis within society. The humanities and social sciences can provide the elements for clarification or arguments relevant to enabling an improvement in democratic life, in particular when an important issue is being discussed. They may bring something to light which, until then, was unapparent. This could be empirical, on the basis of grass-roots fieldwork, for example, or conceptual, by clarifying the imprecision or confusion in everyday vocabulary. Ideally, the humanities and social sciences update empirical work and amalgamate this with a more abstract theoretical discourse.

The humanities and social sciences are particularly useful in pioneering recognition of the gravity of a phenomenon or a new problem when they reveal, name and provide the key to understanding it. They are also useful in providing an insight into current affairs, which enables us to get away from the 'here and now' into which media temporality plunges us every day. Their task here particularly consists in setting the events in a context, showing the link with events which occurred at an earlier date and are now apparently forgotten. They also shed light on the diversity of the actors involved and the various levels of action from the most global to the most local, which brought them to the fore. As a result, they are also useful when they join forces and share their resources. The aim is not to conceal the specificities of each discipline, but to encourage sociology, social psychology, psychology, history, social anthropology, demography, economics, etc., to pool resources at the top level, while respecting their particular approaches and methods.

This joint publication, which Denise Jodelet, Jorge Vala and Ewa Drozda-Senkowska have prepared, corresponds perfectly to this approach to the value of the humanities and social sciences. The focus is on one problem: threat or threats, which to date have not attracted much attention in either public policy

debate or scientific life. The book suggests a conceptualisation, gradually taking shape with each contribution. The concept of threat is distinguished from other concepts that are relatively close in meaning and have emerged over the last few years. In the first instance, there is the concept of 'risk' to which the late Ulrich Beck drew our attention. He considered it the major characteristic of our modernity, which has now become, in his words, a 'reflexive modernity'.

Numerous scientific disciplines, such as epidemiology, have adopted a rational approach to the concept of risk, even if they do admit to a degree of uncertainty. In contrast, threat or threats include dimensions which are, to a large extent, subjective and emotional, and liable to recall a period long since gone, in which dangers were predicted by ill omens or prophets of doom. This is what Norbert Elias called the 'magic-mythical' stage of development. In many ways, it evokes the present when fake news, rumours and conspiracy theories seem to combine in making truth obsolete to the benefit of an enigmatic post-truth.

From this perspective, the publication addresses phenomena such as migratory movements, climate change or terrorism, in which the concept of *threat* seems to increasingly predominate, thus substantially altering the representations and sensitivities of our contemporaries. However, by assembling the respective viewpoints of several disciplines and enabling interchange with critical detachment, *Societies Under Threat* allows for a much less emotional discussion of this concept. This enables us to maintain it, and ourselves at the same time, in the context of reflexive modernity.

This is why, as colleagues and as directors of FMSH, we are particularly happy to have supported the founding symposium and to have perceived therein what we consider to be a landmark publication.

Michel Wieviorka
Jean-Pierre Dozon

Michel Wieviorka is Sociologist, Professor at the École des Hautes Études en Sciences Sociales (EHESS, Paris, France) and President of the Fondation Maison des Sciences de l'Homme. He was President of International Sociological Association (ISA, 2006–2010) and is Member of the Ecole des Hautes Etudes European Research Council. His main research deals with violence, terrorism, racism, anti-Semitism, but also democracy, multiculturalism and social movements. He is Author of several books, including: *The Making of Terrorism; The Lure of Anti-Semitism; Violence: A New Approach; and Evil.*

Jean-Pierre Dozon is Anthropologist, Research Director Emeritus at the Institut de Recherche pour le Developpement (IRD) and Professor at the Ecole des Hautes Etudes en Sciences Sociales (EHESS; Paris, France). He is also Vice-President of the Fondation Maison des Sciences de l'Homme (FMSH). He has published a dozen books including *La Cause des Prophètes - Politique et Religion en Afrique Contemporaine; Frères et Sujets- La France et l'Afrique en perspective; l'Afrique à Dieu et à Diable - Ethnies, Etats et Religions; Saint-Louis du Sénégal. Palimpseste d'un ville; Afrique en Présences - Du Monde Atlantique à la Globalisation Néo-libérale; and La vérité est ailleurs - Complots et Sorcellerie.*

Acknowledgements

As editors of this book, we are particularly grateful to the scholars who agreed to take part in this project for their distinguished and innovative contributions. Their remarkable and stimulating ideas will certainly inspire new research into social threats as a crucial concept for understanding the dynamics of contemporary societies.

This book would certainly not have been possible without the generous support of the Fondation Maison des Sciences de L'Homme and the Calouste Gulbenkian Foundation. Equally important for the success of this venture was the support provided by the Institute of Social Sciences of the University of Lisbon (FCT Grant UID/SOC/50013/2019).

We wish to thank all these institutions for their help in the funding of this project.

The need for this book arose both from the editors' previous research into contemporary social threats and from a conference that they organised in 2017 with researchers from different disciplines operating in various countries. Devoted to the theme of 'Social Threats: an emerging transdisciplinary research domain', this conference was held at the delegation of the Calouste Gulbenkian Foundation in Paris with the collaboration of the Fondation Maison des Sciences de L'Homme, as well as the support of the University of Lisbon, Ecole des Hautes Etudes en Sciences Sociales, Réseau Mondial Serge Moscovici and Institut de Psychologie de l'Université Paris Descartes. We would like to express our gratitude to the researchers who participated in the conference for their important contributions to this project, with a special word of thanks being addressed to Michel Wieviorka and Jean-Pierre Dozon, respectively, President and Vice-President of the Fondation Maison des Sciences de L'Homme, for their involvement in this meeting. We would also like to thank the representatives of the Calouste Gulbenkian Foundation in Paris, Joao Caraça and Miguel Magalhães, for their collaboration and for the support that they provided in the hosting of the conference.

Brigitte Dufeutrelle from the Fondation Maison des Sciences de L'Homme and João Silva from the Institute of Social Sciences of the University of Lisbon both made a most valuable contribution to the organisation of the conference. The editors are also enormously grateful to Mick Greer for his help in editing the chapters of this book and to Leonor Bettencourt Rodrigues, a postdoctoral research fellow at the Institute of Social Sciences, for her help in organising the manuscript and for her critical contributions to its improvement.

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Jorge Vala Ph.D. in social psychology, University of Louvain, is Emeritus Researcher at the Institute of Social Sciences, University of Lisbon, Portugal. His research focuses on socio-cognitive processes, namely in the field of social

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Ewa Drozda-Senkowska graduated in psychology from the University of Warsaw, received her Ph.D. in cognitive psychology at the University of Paris 5 and is currently Professor of social psychology in the Paris Descartes University, where she has been Director of both the Laboratory of Social Psychology and the Institute of Psychology. She also created a laboratory at this university for the study of social threats. Former President of the psychology section of the National Committee of the universities, she currently serves as Scientific Advisor to the French Ministry of Higher Education and Research. She was made Chevalier of the Legion of Honour. She has directed several research programmes on collective decision-making, supervised numerous Ph.D. theses and serves regularly as an expert for the National Research Agency. She has coordinated several works on collective irrationalities, the pitfalls of reasoning, psychology of anticipation and, more recently, social and environmental threats. She has written several manuals on experimental social psychology, several chapters and scientific papers focusing on group behaviour, validation of everyday knowledge and collective emotions.

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Chapter 1
Introduction—Threats: An Indispensable Debate

Denise Jodelet, Jorge Vala and Ewa Drozda-Senkowska

Certain social phenomena take on particular importance in certain historical periods or at certain moments in social life. Even if they have always existed, due to specific socially sensitive conjunctures they are suddenly afforded special attention by the public, as well as in political and scientific circles. A paradigmatic example was to be found, for instance, in the case of phenomena involving social identity, which led to both the spontaneous expression of social groups and reflections in the different fields of action and social thought. More recently, the phenomena of threats have come to be seen as another paradigmatic case due to the impact that they have in the different sectors of collective life, with the particularity of arousing a scientific interest that affects all disciplines. This book therefore begins with a statement of fact, outlining the threats appearing today in social, political, economic and psychological spheres, and then initiates a multidisciplinary reflection on the subject. Such reflection is seen as increasingly urgent, since the threats facing contemporary societies are felt to be particularly strong.

Opening an Interdisciplinary Research Field

It is the specific aspect presented by the study of threats that has led us to engage in a multidisciplinary reflection, even though it is rare to gather together in the same book specialists in human and social sciences from such different theoretical backgrounds

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and such a wide variety of disciplines, ranging from anthropology and biology to ecology and history, but also including economics, philosophy, psychology, political science, sociology and environmental sciences. This book therefore offers diverse points of view and different approaches to a common subject, directing our attention to the phenomena that affect the contemporary world beyond national frontiers.

The aim of this work is audacious in many ways. Not only because of the theoretical, disciplinary and national diversity of the contributors, but also due to the innovative nature of its theme. It was, in fact, becoming urgent to begin a reflection on the concept of threats and their related phenomena whose social and psychological implications could not be ascribed to the processes studied in relation to the question of risk (Bourg, Joly, & Kaufman, 2013; Caillaud, Bonnot, & Drozda-Senkowska, 2017).

As far as risk is concerned, after a first phase marked, in the seventeenth century, by the beginning of the calculation of probabilities, and, in the nineteenth century, by the development of insurance and social protection, from the 1960s onwards, there was a gradual appropriation of the problematics of risk management in professional, political and scientific circles, leading, from the 1980s onwards, to a unification of approaches in the different areas of its application. Two types of knowledge were therefore mobilized to create this common matrix: mathematics and psychology. In this latter case, it was a question of determining the public's perception of risks and their acceptability, managing the conflicts resulting from risk situations, and, through communication, overcoming resistance to risk control measures. The study of behaviours in risk situations also made it possible to adapt and legitimate the actions recommended by risk managers.

The field of risk studies immediately registered a number of collaborations between the social sciences and social psychology, which, from the early 1960s onwards, made a notable contribution to political and social reflection (Boudia & Demortain, 2014), with different models. We should not forget the model that Kahneman, and Tversky (1984) developed about risk evaluation in a situation of uncertainty; nor the one that has come to be known as the "prisoner's dilemma" (Tucker, 1950, 2001; Eber, 2006), referred to in the works on group risk taking; or those of "cognitive dissonance" and "self-fulfilling prophecy", proposed by Festinger (Festinger, 1957; Festinger, Riecken, & Schachter, 1956) and widely used in politics and economics. And we should also recall the range of studies that have since been developed on beliefs, attitudes and social representations in regard to risk and their relationship with risk-taking behaviour, particularly in the areas of environment and health.

The first research into threats, undertaken in the field of social psychology, underlined two fundamental characteristics: on the one hand, the fact that threat, by bringing into play identity and self-esteem, is a factor that reinforces vulnerability; on the other hand, the role played by relationships between groups in the production of identity-related and social threats. This avenue of research was extended into the social sciences, leading to an increase in the number of researchers devoting their attention to the role of cognition, affects and emotions in social life.

Furthermore, certain social scientists have underlined the extent of the social incidence of phenomena that, arranged under the category of threat, transcend the

nature and scale of risks, leading certain thinkers to speak of "catastrophism", whether "enlightened", by granting a role to the scientific orientation of politicians (Dupuy, 2002), or "social", by granting a role to public opinion in science and politics (Beck, 1992). However, these views were initially met with complete indifference not only by "politicians, economists and *risk managers*, but also, by and large, by most of the public opinion" (Bourg, Joly, & Kaufman, 2013, p. 14).

The studies on risks in different areas are now legion, making it possible to discuss their impact at the individual and collective level, as well as the precautionary and preventive measures whose recommendation is sometimes called into question due to the effects that they may have on individuals and populations, as well as on the organs of power and information. However, when it comes to threats, there are far fewer studies. And yet, the word "threat" is beginning to penetrate more deeply into the social space and the media, referring to phenomena that bring social vulnerabilities into play and to an accumulation of disturbing events, likely to cause a feeling of dismay. It therefore constitutes a category that is beyond that of risk and calls for scientific debate and new reflections on contemporary societies.

Towards a Transdisciplinary Approach to Threats?

Above all, this book is concerned with the emergence of threats affecting the different social areas, for historical reasons or conjunctures. Threats can now be identified in all fields of social life involving material regulations and social practices, as well as ideological issues: ranging from environment and health to the fields of economics, politics and religion, or those of social and moral values. Consequently the theme of threats calls for a comparison between the disciplines that have been used to approach this question, from a theoretical and practical point of view. Such an exchange proves to be necessary nowadays in order to build the framework for a transdisciplinary approach, making it possible to identify and examine the social and psychological dynamics underlying the responses that the social actors give to contemporary situations.

As shown by Wieviorka (2007), the evolution of the contemporary world demands a "reconfiguration of the relationship between disciplines", calling for new relations (cross-, trans-, multi-, joint-, inter-) between social and human sciences. These relations are now based on "borrowing", "infusion", "collaboration" and "coordination", centred around new themes. But this movement applies to all sciences and has given rise to an in-depth reflection on the status of the disciplines and the relations established between them. According to *The Oxford Handbook of Interdisciplinarity*, the question of transdisciplinarity was first raised, along with that of interdisciplinarity, in 1972, in an OECD publication. It would then be defined some twenty years later as an original mode of knowledge production: given the name of "Mode 2". This mode of production contrasts with another mode, known as "Mode 1", based on the disciplines. Transdisciplinarity is therefore considered to extend beyond the limits and

models proposed in an organization of sciences into "disciplines" and "specialisations". It replaces a hierarchical, homogeneous view of science, divided into closed areas, with a synthetic reconfiguration and contextualization of knowledge that is non-linear, complex and heterogeneous, and which, together with the contributions of scientific experts, also comprises the expertise and know-how of social actors.

From this point of view, the theme of threats presents itself as a meeting place, an increasingly fertile space of coordination that, together with the scientific point of view, includes a consideration of the way in which threats are realized and expressed, as well as the intentions of their perpetrators, the responses of their victims, and the reactions of public opinion, the media and the decision-making and political circles. The aim of this book is to analyse in greater depth the category of threat, which is now in common use, but whose different dimensions necessarily call for a multidisciplinary approach that we hope will pave the way towards a transdisciplinary conceptualization. It is the centrality of a fundamental social concern—the era of threats—that unifies the diversity of disciplinary approaches to be found in this book, which seeks to stress how the idea and the feeling of threat now shape our representations of everyday life and those of our nuclear institutions.

Thinking, Building and Confronting Threats: Organization of the Book and Summaries of the Chapters

In the following texts highlighting recent developments in the major disciplines in the area of social and human sciences, we propose the fundamental frameworks for an urgent reflection on the threats that we now face in contemporary societies. In pursuing this aim, we have traced a path that leads us from the conceptualization of threats to a questioning of the way in which we construct them, and ends with reflections about the reactions to threats that mark our present era. The book concludes with a chapter that maps the pathways opened by the contributions offered by the plurality of disciplines involved in this work and offers suggestions for fruitful horizons of research. In short, this book seeks to contribute to new views about the threats facing our societies, bringing together authors who are not only renowned researchers in this field, but also academically and institutionally influential figures in their own right.

Thinking threats: opening views on phenomena and social processes constitutes the fundamental topic of the First Part of the book. Indeed, threat constitutes an analytical category that simultaneously involves social phenomena and psychological, social, religious, historical and political factors, calling for a suitably broad conceptual approach and for an open view about the way in which threats are created.

In the opening chapter of this part, *"Uses and Misuses of Threats in the Public Sphere"* , Denise Jodelet explores the meaning of threats within the framework of social representations theory, looking at the way that their conceptualization and

exemplification are treated in the media and the scientific and philosophical literature that influence public perceptions, feelings and moods. This analytical strategy allows the author to confront and distinguish threat from other terms such as crisis, catastrophe and risk. In particular, she focuses on the differences between risk and threat, emphazising the idea that threat implies both a degree of inevitability in its occurrence, uncertainty in its actualization and unpredictability "in its effects". Significantly, she develops the dimension of evil and fear produced by threat and closes her chapter with a reflection on the analytical categories that can be used for examining the production of threat phenomena, as well as the answers or reactions to them, a topic that will be further developed in the third part of the book.

The chapter *"Unbounded Environment, Risk Society and the Potentialisation of Threats: A Challenge for Social Sciences"* by Lionel Charles and Bernard Kalaora brings an innovative contribution to the debate about the foundations of threat as a useful and specific concept beyond the concept of risk. Indeed, one of the core topics of the reflection proposed by these authors is related to the need to consider threat within the broader context of the complexity of modern societies, confronted with what is described as the "acceleration" and "proliferation" of phenomena that generate a "sense of a loss of capabilities" and "defensive cognitive and practical mechanisms". These phenomena shaped by a dynamic social context not only have an impact on the emergence of threat at a collective level, but also at the institutional and political levels.

In the chapter *"Transcendental Damage versus Global Risks"* , Dominique Bourg posits his reflection on threat, considering a category of phenomena that the word "risk" renders invisible because they do not fit into the actual conceptualization of this term. This is why Bourg uses the term "transcendental damage" to describe a category of damage that will provoke the collapse of humankind itself or, in other words, "the habitability of the Earth system as such for human beings and other species". More definitively, this author proposes that "by placing economics and its vocabulary, that of risk, above all else, we have inverted a fundamental hierarchy: we have placed what is conditioned above the condition of its very existence".

The two previous chapters situated the need for a conceptualization of threat in the context of the complexity of modern societies as a whole and in the context of phenomena that harm the very survival of humankind. The chapter by Henry Atlan, *"Modalities of Perceiving Threats: The Time Factor"* , emphazises a dimension of threat that is to be found at the core of the phenomena evoked by this term: emotions, a fundamental element of threat which will again be addressed in the last chapter of the book. The originality of this chapter lies in the fact that the emotions related with threat are linked to the time factor, an approach that can form the basis for a new taxonomy of threats. Most importantly, the author questions how a future threat "is strengthened by its being made present" and considers the consequences of this process for everyday life mainly in the context of the new forms of communication that are by themselves a threat.

The chapter that closes the first part of the book, "*In the Age of Societal Uncertainty, The Era of Threat"* , by Glynis Breakwell examines how a threat is always a product of a social construction process that occurs in a society defined by uncertainty

and by identity concerns. Starting from a point of view based on social psychology, the author dialogues with other theoretical and methodological traditions in order to pursue an analysis of the way that threats are created, used and controlled, placing special emphasis on the role of power, identity and global communication in the processual dimension of threats. Beyond its contribution to the development of the concept of threat, this chapter launches a challenge to the research being undertaken in this field, outlining "the need for a holistic theory of threat".

Building Threats: Cultures, Groups and Identities is the title of the Second Part of the book. Despite its contribution to the development of the concept of threat, by bringing into play the concepts of culture, group and identity, this second part of the book focuses on critical and specific contemporary threats and illustrates how these are constructed in different contexts, involving different sources, targets and actions: terrorism, climate change, nationalism, migrations and minorities.

Michel Wieviorka opens this second part of the book with a chapter entitled "*From the Classical Terrorism of the 1970s to Contemporary Terrorism"* . As stated by the author, only recently has terrorism per se come to be considered as an object of study by social sciences and as "a threat and a reality that have imposed themselves in their own right, and with a planet-wide, global intensity". Based on a sociological and historical approach, Wieviorka distinguishes between "classical terrorism" and "global terrorism". "Classical terrorism", a phenomenon that is more understandable within the context of other phenomena and concepts, was shaped, at least in part, by the logic of "instrumental, rational action". On the contrary, in current "global terrorism", actors attribute to their action a global and metapolitical meaning and effect in which instrumentality and rationality seem to be absent. Moreover, Wieviorka situates the new "terrorist subject" as an actor involved in a process of a loss of meaning, for whom terrorist action is itself part of the process of a search for meaning. Significantly, the loss of meaning and the subsequent meaning-making support other forms for the construction of today's social threats.

The chapter by Sabine Caillaud, Virginie Bonnot and Silvia Krauth-Gruber, *"Climate Change in Sociocultural Contexts: One Risk, Multiple Threats"* , is based on several empirical studies that illustrate different dimensions of the process involved in the construction of threat related to climate change and to the so-called environmental anxiety. Specifically, these studies show how different pre-existing beliefs in France and Germany and the different paths followed by the ecological movements in those countries shape different social representations about climate change: in France, climate change is mainly anchored in political categories, whereas in Germany it is more of a moral issue. These two different representations of the threat represented by climate change are associated with different ecological practices, different emotions and responses to social identity threats, and illustrate the role of culture and political cultures in the construction of threats.

In his chapter, *"A Lasting Symbolic National Threat: The Dispute Over the Name Macedonia"* , Nikos Kalampalikis proposes a significant contribution to the understanding of nationalism and the threat to national identity and offers a meaningful analysis about the processes involved on the construction of threat in the context of symbolic thinking.. This topic is one of the main subjects of debate in the current

political sphere and in everyday popular discussions. The new rise in nationalism and the threat that it represents call for new analytical categories and approaches like the one offered in this chapter. Beginning with the conflict that has arisen over the name of a new country, the chapter offers an overall view about the processes involved in nationalist phenomena. Based on the links between social representations, national identity and social memory, and making use of empirical research, Kalampalikis' chapter shows how the concept of *anchoring* proposed by the theory of social representations could be a nuclear concept for understanding the belief systems involved in threatening nationalist phenomena. Our societies are today diverse societies where the invocation of imagined, potential or actual contradictions between the majority and the minorities has become a quasi-panacea for the cure of our pains and sorrows.

Juan A. Perez and Farah Ghoson, in the chapter *"Gypsies: Which Threat? Threat and Purity in Majority and Minority Relationships"* , *analyse* a specific minority that is perceived as a threat: the Gypsies. However, the reflection proposed by the authors of this chapter may encourage theorising about other groups also represented as minorities, more specifically as minorities "ontologised as wild". According to the approach adopted by these authors, the taboo of difference and the taboo of contact represent central aspects of the conflictual relationship between majorities and minorities. Significantly, their empirical approach to the representation of Gypsies as a threat offers an alternative view to the mainstream in this field. Indeed, they propose that it is not the perception of Gypsies as a threat that generates discrimination, but the discrimination against Gypsies that leads to the representation of this minority as a threat.

The chapter by Jorge Vala and Cícero Pereira, *"Immigrants and Refugees: from Social Disaffection to Perceived Threat"* , closes the second part of the book. In this chapter, the authors seek to contribute to the understanding of threat such as it is ascribed to immigrants and refugees and to the role of threat in the legitimisation of discrimination. Just like the previous chapter, this one also empirically shows how threat can be analyzed more as a consequence than as the actual beginning of a social process. Actually, this chapter looks at how the representation of immigrants and refugees as a threat is part of the complex process of meaning-making in the context of societies shaped by uncertainty and "social disaffection". Moreover, the authors focus on an important aspect of the social dimension of threat: how threat, once it is constructed, can be used to legitimise power, inequalities and genocide.

Confronting Threats in the Public Sphere: Refusal, Change, Action is the theme of the third and final part of this volume. This section looks at coping strategies and reactions adopted towards different threats, such as those arising from natural disasters and catastrophes, collective traumas, financial technology or epidemic and collective diseases. As in the previous parts of the book, this third part seeks to contribute to the conceptualization of threat, but it also addresses specific threats in order to explore how its construction can involve different forms of imagined or real responses.

"Climate change in the 21st and Following Centuries: A Risk or a Threat" , the chapter by Filipe Duarte Santos, offers an extensive historical approach to the question of how societies perceive and react to the climate change threat and its scientific

approach. The author's narrative highlights key strategies and decisions taken by national and international institutions that have created a pattern of refusal, non-recognition or negationism regarding climate change. The author draws attention to the fact that, even today, governments continue to promote the search for new deposits of oil and natural gas "as if there was no Paris Agreement". The chapter ends with a conceptual, strategic and technical question: is the anthropocenic climate change still controllable or not? The possible positive scientific and technological answers to this question seem to pave the way to new threats.

Laurence Tubiana and François Lerin, on the chapter *"The Perception of the Threat of Climate Change and the Conditions of Political Decisions"* , also focuses on the threat represented by climate change and the reactions to it, although, in this case, it emphazises its public, political and ethical dimension. The authors reflect upon the Paris Agreement, but go beyond the simple analysis of the action of institutional power regarding climate change. The "experiment" of the Paris Agreement allows the authors to develop the idea that the centrality of the individual and collective experience of catastrophes provoked by climate change, the anticipation of that experience, the notion that consequences become closer in time, ethical concerns and a "new cosmopolitanism" are factors that play a fundamental role in fostering a reaction to threat that is based on action, and not on denial. In keeping with this line of argument, the authors propose that a positive answer to the threat of climate change implies a joint mobilization of "inquiry, action and knowledge", making it possible to move from threat to hope or from collapse to rescue.

The chapter by Christian Walter, *"The Black Swans in Finance: Unpredictable Threat or Descriptive Illusion?"* focuses on the threat posed by rare but high-impact events in finance (e.g. serious market crashes, financial meltdowns), metaphorically interpreted as "black swans". The author proposes an alternative and very original understanding of the potential threat of systemic financial crises. His approach, using an actuarial standpoint to analyse the symbol-based writing down of the probable and a philosophical standpoint that considers writing down the probable as an Austinian "speech act" (a financial *Logos*), suggests that the financial black swans would be considered a descriptive illusion, an *ex-post* reconstruction of events that were partly foreseeable. For him, the financial black swans are a perlocutionary effect of the financial *Logos*. If the financial *Logos* can produce black swans, it represents a threat for societies.

"Threat and Oblivion: Trying to Understand the Silencing of the Spanish Flu" is the title of the chapter by Maria Luísa Lima and José Manuel Sobral. They look at the influenza pandemic that killed dozens of millions of people, and which, for some authors, was the greatest epidemic in the history of humanity, and contrast this with the memorialization of the First World War and the almost complete neglect of the Spanish flu. Based on a historical approach, grounded in theories about social memory and some socio-cognitive and emotional factors, the authors try to understand how this public oblivion of the Spanish flu was constructed. They suggest that this epidemic tragedy was (and is) represented as a collective and institutional failure and is consequently considered an unmemorable event in the public sphere, despite its lasting presence in people's private lives. This chapter is an excellent illustration of

how, when collective identity and the preservation of a positive representation of the future are at stake, oblivion is, in itself, a response to threatening events.

Finally, the chapter "*The Collective Emotional Impact of Threatening Events*" by Bernard Rimé deals with collective responses to a collective trauma (e.g. an accident, disaster, or terrorist attack), i.e. in situations when threats become reality. He analyses four types of response that are developed spontaneously when a threat emerges: a search for information, overabundant conversations, crowd gatherings and manifestations of generosity and openness to others. The originality of his analysis lies in the way it questions the reasons for these reactions, their interrelationships and their functions, in order to arrive at a new reading of two major responses: crowd gatherings and the interpersonal processes of the social sharing of emotions, which are seen as two complementary tools for synchronizing the emotions of the members of the affected community. The main function of this synchronization is to reweave the network of "the social fabric", reaffirm common values and beliefs, and restore solidarity and social cohesion.

In its different parts, this book offers a global framework for approaching the phenomena of threats, in their conceptual and factual aspects, in their social and psychological dimensions, and as a function of collective, inter-group and interpersonal contexts. Thinking, building and confronting threats is thus shown to be a powerful programme of analysis, within which a dialogue can be established, revealing the complementarities between the contributions of the different human and social sciences. But the book's contribution does not end there: by addressing phenomena whose striking particularities have only been afforded full visibility in recent history, making them matters of concern affecting social life, it has offered these notable representatives of various disciplines an object that previously had barely attracted the interest of researchers, but which now allows them to cast an enlightening glance at the contemporary reality of our societies. This has resulted in a chorus of different voices whose echoes are cross-referenced from one field to another, overlapping one another here, complementing one another there, with all of them combining to open up a path for approaching such complexity, which means that this collective book can proudly stand as a multidisciplinary work that paves the way to a genuine transdisciplinary approach.

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Part I
Thinking Threats: Opening Views on Phenomena and Social Processes

Chapter 2
Uses and Misuses of Threats in the Public Sphere

Denise Jodelet

The purpose of this chapter is to outline, on the basis of previous studies in which I had to deal with threat, particularly in the fields of health, mental health and environment (Jodelet, 1989, 1998, 2001, 2011, 2015, 2017; Jodelet & Scipion, 1992, 1998; Jodelet, Ohana, Biadi, & Rikou, 1994), the framework of a psycho-sociological approach to how the notion of threat is used in the public sphere. That is the space of discourses, narratives and representations circulating in communications and daily social exchanges, as well as in the debates enlivening the scientific, political and media spheres, their stakes and the resulting consequences for social life. This requires a dual approach. On the one hand, a clarification of the meanings of the notion of threat and its positioning in relation to other terms to which it has been linked, particularly those of catastrophe and risk is needed. On the other, the uses, legitimate or inappropriate, which are made of the notion in scholarly, media and popular commentaries must be identified. By doing so, it will be possible to identify the underlying dimensions, such as evil and fear, which give it overtones contributing to present-day anxieties and, thereby, to outline the framework of an analysis that aims at identifying the phenomena and processes that it brings into play.

Concerning the Notion of Threat

The notion of threat is generally associated with other terms: catastrophe, risk, danger, peril, nuisance, stress, fear and awe; even fright, dread and terror. This approximation has contributed to obscure its meaning, since these terms themselves do not refer to

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phenomena or processes of the same order. Catastrophe, risk, peril and danger refer to an externality in relation to the subject, individual or collective, who experiences it, be it real or imaginary; even if the subject triggers the situation by his/her conduct, as in the case of smoking, traffic, the practice of extreme sports or non-compliance with medical prescriptions. Stress, fear, fright, etc. designate a state that one feels when faced with a risk, danger or peril. Works on risk observe this distinction in their analysis, but do not clarify the status of the threat. But this situation is changing as shown by the series of works in social and political sciences and philosophy (Beck, 2001; Bonelli, 2008; Bourg, Joly, & Kaufman, 2013; Boy, 1999; Ferry, 1992; Lovelock, 2008; Laugumier, 2008) and the publication of a book encouraging one to "rethink the risk society" from a psychosocial perspective (Caillaud, Bonnot, & Drozda Senkowska, 2017).

The existence of semantic shifts identifying the term threat with those of catastrophe, disaster, risk, peril, danger, nuisance, stress, awe, fear, etc. have, in the past, led it to lose all specificity in favour of the role of umbrella concept or metaphor. But the recent uses that are made of it call for a specific elaboration crossing the various fields where threat takes on diverse forms; notably in the case of environment, health, scientific and technical progress, economy, politics, social life (crime, poverty, unemployment, exclusion and marginalization, war and terrorism).

Indeed, considering the narratives related to risks, whether they pertain to ecology, science and technology, social sciences, literature, film fiction or the media, there has been an evolution in how the notion of threat is used. Simply used, initially, as the announcement of a possible danger, it made a more pronounced and specific entry from the end of the 90s, with the recognition of the seriousness and the scale of environmental or health problems. Later, the emergence of terrorism called for more subtle elaborations of its meanings. With the entry into the 21st century, further evolution has occurred that, overstepping the framework of scientific findings, shifts insidiously from threat to catastrophe, resulting in a cataclysmic vision of our future, associated with terms that cause anxiety. Some examples allow to illustrate this evolution

Thus, we observe a "return of the catastrophe on the scientific scene" (Clavandier, 2015). This notion and the events corresponding to it in the past, distant or near, have been adopted, not without debate, in scholarly thought with worrisome overtones. At the point that the concept of "catastrophe", replacing the concept of "crisis" (Moreau, 2015), has become, together with the development of "disaster studies", a central theme today in the thinking of the social sciences, including anthropology, history, ethnology and sociology. In addition to some major works (Hoffman & Oliver-Smith, 2002; Mercier-Faivre & Thomas, 2008; Moreau, 2017; Neyrat, 2008; Stengers, 2008; Walter, 2008), several journal issues have been devoted to it (Communication, 2015; Le PortiQue, 2009; Terrains, 2010).

This scientific concern has had an impact on the public sphere, as shown by the case of the "Doomsday Clock",[1] created, as far back as 1947, by a group of scientists at the University of Chicago as an alert to nuclear dangers, followed subsequently by ecological, economic and technical dangers that, linked to the mismanagement of governments, are threatening the world with global collapse. Since then, this theme has continually fuelled literature, films, television, songs, comics and games.

Today, this concern particularly permeates the written domain (media and books), as illustrated in an issue entitled "The apocalypse according to novelists and philosophers", published by "The Literary Magazine",[2] shortly before the holding of COP 21 that was described as an "international gathering that is as much anticipated as it inspires indifference, since it is expected to be much ado about nothing, leading to delaying tactics". Beyond the catastrophic scepticism asserted as evidence, this example is interesting from a double point of view.

On the one hand, we note, a dozen titles, chosen from among the 55 books published in France by those who are now called "collapseists" or "collapsologists" ("effondristes" and "collapsologues", in French) and who have appeared since the 2000s.[3] As an indication, let us note some eloquent titles:

- *Introduction to the century of threats* (Introduction au siècle des menaces, in French). 2004. Blamont, J.
- *Collapse. How societies decide on their disappearance or their survival* (Effondrement. Comment les sociétés décident de leur disparition ou de leur survie, in French). 2005. Diamond, J.
- *The sixth extinction* (La sixième extinction, in French). 2015. Kolbert, E.
- *How everything can collapse. Handbook of collapsology for the use of the present generations* (*Comment tout peut s'effondrer. Petit manuel de collapsologie à l'usage des générations présentes* , in French).2014. Servigne, P. Stevens, R.
- *Why everything is going to collapse* (*Pourquoi tout va d'effondrer* , in French). 2018. J. Wosnitza.

On the other hand, these publications clearly illustrate how the media can draw a picture which, often deleterious, is likely to influence the public position. Contributing to "the spirit of the times", they cause what can be called a "nocebo" effect. Opposite to the appeasing placebo effect, this reinforces anxiety-inducing feelings, scientific doubts and suspicions regarding public policies, as well as demands for protection and security. These concerns have also fostered political discourses that use the notion of threat to mobilize attention and forge a vision that affects "living together".

[1] The Doomsday clock uses an analogical device, where midnight represents the end of the world and each year is located in the minutes preceding it. According to the global situation, the number of minutes has varied from 17 to 2; this lower interval has been registered since 2018.

[2] July-August 2015 issue of the *Magazine Littéraire*.

[3] During the same period, 50 similar texts published in English were registered (cf. Turner, 2014).

This phenomenon is illustrated by several surveys. I will mention two. The first concerns the belief in the Apocalypse,[4] whose warning signs are seen in global warming and climate change by 55% of the respondents, in international terrorism by 22%, food riots by 18%, the rise of religious fundamentalism by 17%, the financial crisis by 16% and bird flu by 8%. The second survey is based on the evocations induced by the terms "risk", "danger", "threat", in a sample representative of the French population, (Bonardi, 2017). Threats cause more extreme and negative assessments than risks and dangers: they are more formidable; their occurrence is more random; they are less controllable. In the face of threats, greater vulnerability and insecurity are experienced than in the face of risks or dangers. In addition, it is worth mentioning the file recently published in the daily newspaper, *Le Monde*. It mentions 300 testimonies registered in response to a call upon its reading public,[5] besides a survey carried out, in October 2018, at the University of Albi, on a sample of 1600 persons. Both documents confirm the confusion and dejection felt by the public when faced with the threatened future state of the world.

Threat Approach Framework

These uses and misuses of the notion of threat in the social discourse give it multiple physiognomies, making it sometimes incommensurate compared to the related concepts of risk and danger. There is an important consequence here. It is theoretically posited that the modelling with regard to risks gives, thanks to the collaboration between the different research and management organizations, the means for a transversal approach to the various domains where they are observed and studied: health, environment, finance, security, work, society, crime, delinquency, war, terrorism, etc. All this seems difficult in the case of threats, given the history of its use. Can we therefore envisage establishing a framework that would allow a comprehensive and transdisciplinary approach? I will try to contribute, based on the paradigm of social representations (Moscovici, 1961, 2000, 2013), taking up and developing a first review (Jodelet, 2017) on the ways common sense constructs the concept and the tools it has to do it.

Among these tools, dictionaries provide a general approximation of the notion of threat. The definitions given in French dictionaries (Larousse, Littré) highlight the interpersonal dimension of the threat. Identified as a warning, it is the expression of an intention to harm, harm others or coerce them to act against their will. Less dramatically, it can simply assume a pact or a social contract instituting conditionality in the exchange where the announced malfeasance comes in response to the non-satisfaction of a request or a desire. Secondarily, the threat concerns a sign

[4] Survey carried out by the Institute of Public Opinion Poll, Sofres, in 2008, on a sample of 1000 participants, representative of the French population.

[5] "Le succès inattendu des théories de l'effondrement". Le Monde, 6th February 2018, pp. 6–7.

announcing something to be feared; it then aims for objective occurrences, observable or foreseeable states of fact, whether or not it is a result of a human action.

Moreover, in common usage, to threaten is to put someone in danger, to let someone fear damage or harm. Such a process refers to a state of fragility. The reference to danger, to damage or harm, to vulnerability today finds an amplified echo in the worries that have arisen because of the collective situations peculiar to our modernity, calling on us to "think about catastrophe" (Bourg et al., 2013). It should also be noted that catastrophe has become, in recent years, a central theme in the reflection of the social sciences, in particular anthropology, ethnology, history and sociology. Besides some major works (Hoffman & Oliver-Smith, 2002; Mercier-Faivre & Thomas, 2008; Moreau, 2017; Neyrat, 2008; Stengers, 2008; Walter, 2008), scientific reviews have devoted special issues to it (*Le PortiQue*, in 2009; *Terrains*, in 2010; *Communications*, in 2015).

However, little work has been done to improve the approach of dealing with threat as such and in its diverse facets, independently of the domain where it is observed. To advance in this direction, in its analysis we must distinguish the source, the target, the situation, local or global, individual or collective, where it intervenes, to determine the modalities of the danger it represents. It will then be necessary to specify the danger carried by the intentions or the responsibility of the source, the mode of intervention (material or symbolic) qualifying the danger, and the feelings experienced by the target.

To these distinctions, we should add clarifications differentiating threat from crisis, catastrophe and risk. While these last terms apply to a vast range of occurrences: natural disasters (earthquakes, tsunamis, volcanic raids, floods, extreme climatic episodes, famines, etc.); accidents (air crashes, wrecks, extreme technological accidents, etc.); pandemics; tragedies produced by mankind (attacks, wars, massacres, etc.), the notion of threat applies to categories of more limited cases. Even if we can say that certain signs are warnings of a climatic or health threat, most of the natural disasters arise without perception of threat. This applies also to accidental episodes. Only the actions attributable to human production are a matter of threat, strictly speaking. On the other hand, threat takes place on a temporal scale different from crisis and catastrophe. While the latter register a break between a past state and a state that they produce, threat anticipates a situation to come.

Moreover, threat widens the scope of the notion of risk that is presented in G. Breakwell's chapter. While risk is quantifiable, predictable and controllable, threat implies both a degree of inevitability in its occurrence, uncertainty in its actualization, and unpredictability in its effects. While risk is defined by technical-scientific conditions and material effects, threat may be situated in and/or target the sphere of ideas (religion, ideology, political project, human and republican values, etc.).

Finally, threat can be assigned to the various levels of social reality: individual, interpersonal, intergroup, and societal. It can intervene between two entities, be they individuals or groups. It can exceed the framework of the interaction and present a collective or massive nature, especially in its most recent forms. It can emanate from a group or take aim at a population, even if the actors or the concerned victims are individuals; or make up a restricted number, as occurs in terrorist attacks. In

this regard, it has been shown (Bonelli, 2017) that collective threats "do not exist in a natural state" but as a social elaboration implying the intervention of "threat entrepreneurs", a category inspired by that of H. Becker's "moral entrepreneur" (1985). These social actors build, within a given domain of action, their cause against what limits or opposes it, and may be consequently considered as menacing it. This remark shows the complexity of the approach of threat sources and targets. It points out the interactive character of its production, perception and evaluation.

Sources and Targets of Threats

Social psychology research (Caillaud et al., 2017) has amply shown the role of the intentions, judgments, and evaluations bound to the interpersonal or group interaction, in the emergence and qualification of threats and their consequences for behaviour. The sources of threat are imputed to social actors or to institutional frameworks, which entail classifications threatening social identity. In these various cases, the sources and targets of a threat are either particular individuals or particular groups. On the other hand, the sources and targets are defined jointly to the extent that the threat is implemented with the intent of nuisance or influence, or is simply the result of a categorization and/or a social comparison affecting the individuals or groups involved.

But if we take an objective risk acting in a global way into consideration, as in the case of environmental risks, we go beyond interaction. The source of the threat refers not to an intention but to a collective responsibility producing material or symbolic conditions that are harmful or dangerous on a large scale. The threatening character of a process or event is then established by the gravity it presents to the human community or the natural world, such as the nature of the damage it engenders with, in the background, deadly processes for human beings, living species and natural resources. To be able to identify it when there is no directly experienced evidence, requires an effort of information and designation related to the social community, through the dissemination of scientific information, political speech or media.

This global dimension should invite psychologists to reason not only at the level of interpersonal and intergroup relations, but also at a collective level. They should refer to threats that are not only a matter of social interaction but of the course of history and the evolution of the world and call for a new, engaging view of values in the analysis of social relations on a larger human and temporal scale. Within this framework, it seems important to dwell on two dimensions of threat: the harm it implies, the fear it arouses, the feelings it provokes, in those who suffer or observe it. A recent issue of the journal "Nouvelle revue de psychosociologie" (2017) illustrates the rise of such anxieties.

The Evil Carried by Threat

The meaning and imagery of evil and fear have varied throughout history (Delumeau, 1978). Currently, various authors have reported an "anguish over evil" in our historical era. In particular, since the political horrors committed in the twentieth century, this anxiety has been diffracted in the questions of the human sciences and philosophy (Watthée-Delmotte & Deproost, 2000). It has found a new space of expression in the postmodern literature on environmental risks and in media or political commentaries relative to terrorism. One could, therefore, advance the idea that threat refers to the idea of "social evil", in various forms: evil "by" society, evil "for" and "of" society. On the one hand, some states of the world or the environment that could be considered the result of an evil produced "by" society. On the other hand, some individual or collective enterprises, due to their damaging implications, threaten an evil "for" society. Finally, the repercussions of these situations are a state of malaise "of" the society.

To which one could add that the changes due to globalization and technological progress have reinforced this anxiety, because of the comments on catastrophe that they have induced in the writings of the thinkers of our time, particularly those who consider it necessary to play on the "heuristics of fear", an "enlightened catastrophism" or an "emancipatory catastrophism" to awaken consciences and mobilize accountability (Anders, 2012; Blamont, 2004; Bauman, 2007; Dupuy, 2002; Jonas, 2013).

From this perspective, a question arises. Under what conditions can a social evil become a threat for a community, a group or an individual? It has been shown (Rouquette, 2003) that there is the possibility of identifying a social evil without perceiving it as a threat, if one is not concerned by the beliefs and practices it involves. This process reveals a paradox of the individual or collective relation to the threat: it is necessary to pose the inevitability of a phenomenon with deleterious potential so that it becomes a threat. As a result, social evils may exist that are not perceived as threatening by individuals. At issue here is the question of freedom: the risk that I am not free to avoid becomes a threat; on the other hand, if I am free to not believe in it, it does not threaten me. This question of freedom is operationalized in social and cognitive psychology under the category of "control". But it also implies a psychological and ethical commitment that deserves to be studied. The psychological commitment has to do with the subject's feelings. The ethical one concerns the assessment of a real or potential threat to others than oneself. A movement in this direction is emerging, with regard to terrorist threats, with interventions in favour of de-radicalization.

But it is necessary to go further in the analysis to identify the specificity of the threat in relation to the phenomena that carry a potential risk, danger or nuisance which, in theory at least, are objective, measurable, and controllable by preventive or corrective measures (Breakwell, 2010). The literature then insists on the subjective and vaguer, indefinite nature of the threat whose social construction involves emotions, feelings and interpretations of lived situations. Here we touch upon the question of emotions and fear.

The Fear Engendered by the Threat

I will limit myself here to the emotional factor considered central in the evaluation of threats. Researchers call upon "fear", whose analysis reveals different levels, with some going so far as to speak of a "culture of fear" (Morin, 1993).

Emotions are present at different levels: the anticipation of threat and the harm that it makes us dread, the experience of the damage suffered, its memory for those who lived through it and recall it, the observation of an objectified effect of the threat. The emotions and feelings thus mobilized are of a different nature: fear, awe, defensive reactions, amazement, anger, rancour, hate, etc. The work of developing the meaning of the threat is also different: in particular, the pair fear/hate intervenes in the aftermath, whether the threat has been experienced or simply observed. It is at the moment of this post-event elaboration that the models of interpretation proposed by the culture and the media will come into play. It is at this point that an emotion like fear can be manipulated.

Such a process was mentioned in 1950 by Bertrand Russell in his Nobel Prize acceptance speech: "*What desires are politically important?*". Russell emphasized the indissoluble link between fear and hatred, bringing contemporary societies back to tribal-type functioning, with respect to the unfamiliar, the strange, and especially in relation to others, to outsiders that we fear and treat as enemies. His analysis, strictly psycho-sociological, highlights the mutual determination of fear and hatred. It finds a current application in the social processes that the common uses of threat, within media communication, have with regards to the threats related to intercommunity relationships.

Moreover, besides Delumeau's (1978) important historical study and others concerning the factors involved in the production of fear, be they social, such as rumours (Lefebvre, 1989; Morin, 1993) or neurobiological (LeDoux, 2003), various work has been carried out in psychology and the social sciences. When once examining these approaches of fear (Jodelet, 2011), I was able to identify the relationships between fear and knowledge, the role of representations and the "production of meaning" as a "symbolic plug" against threats and fear; the shaping of threats by the media and their manipulation by political power (Thorisdottir & Jost, 2011), and their play in intergroup relations. I will remember here the effects produced by the fear of death awakened by current events, referring to "the management of terror" model. This "Terror Management Theory" (Salomon, Greenberg, & Pyszczynski, 1991) discusses the role of fear of death in changing attitudes to social problems and in defending culturally established worldviews. This theory posits that in order to overcome the "insoluble paradox" born of the desire to preserve life and the certainty of its being inevitably finite, individuals would adhere to mystical or religious belief systems or find refuge in submission to authority or in community belonging. This theory has found an important echo, following the attack on the World Trade Center.

In addition, various studies (Huddy, 2003, 2005) have shown a tendency for people with diffuse anxiety to become less tolerant of difference, more likely to use

stereotypes and to show aggression towards foreigners as well as to conform to cultural norms and have a preference for political leaders affirming a strong nationalist vision, a desire for revenge against terrorists and even engagement in wars.

A number of authors have specifically emphasized the collusion between the media and politics to create fear: Glassner, on the culture of fear (2000), Noam Chomsky on the making of consent (2004, 2008), Al Gore on the politics of fear (2004), or filmmakers like Moore (2002). They identify a number of techniques used to raise baseless concerns and divert citizens from real social problems and a fair awareness of their issues. The notion of "emerging fears" (Furedi, 2005) is added to this conception of a media and political construction of fears. These appear against the backdrop of widespread anxiety because of the failure of the "political imagination" which, incapable of facing crucial social issues, exploits the collective sensitivity by worrying it.

All these models underline the consequences that the awakening of fear has on the relations between groups, and on the refusal to accept minorities or groups marked by a national, ethnic, racial, religious or sexual difference. This kind of analysis could be applied to the way in which the media and those who use them for political purposes, deal with terrorist threats, exacerbate fear, accentuate social disruptions and run the risk of counteracting spontaneous reactions to threats.

The Answers to Threat

Indeed, as in the case of risk, threats call for and lead to avoidance measures which can be individual or collective. Concerning risk, individual responses are analysed, drawing on the five stages of grief (denial, anger, bargaining, depression, resilience) proposed by Kubler-Ross (2005/2009), and which are partially applicable to a threat. Concerning threats, precaution and prevention are the collectively advocated and supported measures, even when it comes to implementing individual behaviours. Added to this is the protection that may correspond to an offer or a social demand for security, or to the adaptation advocated by public policies. To this, the positions or attitudes expressed by both individuals and groups must be added.

Threats brandished by "collapsologists" or "collapsologs" have generated currents of thought that contrast with positive visions and practices: notably "transhumanism", which postulates that reason, science and technology can be put at the service of the protection of the human condition: "survivalism". This promotes the learning of survival techniques and has resulted in a significant number of literary, film and television productions. On the other hand, various movements, such as the anti-pesticide appeal by "Nous voulons des coquelicots" (We want poppies) or "Il est encore temps" (There is still time) in France, organize regular marches or petitions to protest against mismanagement by public authorities. It is worth mentioning, furthermore, movements of revolt, anger and collective condemnation on the social scene as in the case of the fight against agro-food risks or movements of defence of unspoiled nature against the establishment of technical infrastructures.

At the private level, a variety of attitudes or behaviours are implemented to dismiss the notion of threat. They take many forms:

- The denial by which the consciousness of the threat to which one can be exposed is erased, as in the case studied by Zonabend (1989), where people working or living near a nuclear power station declare that they do not perceive any threat because of the technical control exerted on its functioning.
- The challenge by which we face the threat to remove it. An instance often found in the attitudes of patients suffering from chronic or lethal diseases, of which Fischer (1994) offers a magnificent account. This attitude has recently been illustrated by the public's response to terrorist attacks, when the will to continue to live and enjoy life as before was affirmed and put into action.
- Defence by the establishment of protective behaviour: there are now training courses in risk avoidance procedures during a terrorist attack, as well as the existence, on a collective level, of some nations planning to build walls to protect against immigration.

These collective or individual responses have met with mixed reactions. In particular, socially advocated precautionary or preventive measures have been debated and contested by reason of the anxiety they foster, of the individual responsibility they presuppose, and of the social control they imply and the potential for revolt that they can engender (Bronner, & Géhin, 2010).

Other reservations stem from the fact that the validity of scientific knowledge is called into question. Expressed in connexion with measures taken against risks, these reservations take on a particular tone with regard to threats that imply a collectivization, a communalization of concerns, while the debate about threats takes on a collective dimension. It is spotted at all levels of social communication, from the private scene of family discussions to political and decision-making circles or the media sphere.

It has been said that the anti-science and anti-progress sentiments, the fear of change, reappeared at the end of the 20th century in a pacified climate, leading to describe scientific concerns and expressions of secular sensitivity to risk and threats, as "displacement mechanisms". This was a borrowing of Freud's formula (1925/1965), which refers to the belief systems that make it possible to face existential anxiety in times of peace and social calm. But the same is not true today, with worsening climate warnings and an increase in the number and severity of terrorist attacks that reinforce anxieties and turn risks into threats. Terrorism is a case in point, as the media and political spheres take possession of information, interpret it and make use of it, which, reinforcing fears, leads to negative consequences for social unity. They divert from reflective work to confront and overcome feelings of anxiety and threat, favouring partisan conflicts and ideological orientations.

Conclusion

On the basis of the dimensions specifying the characteristics of the threats that have just been examined, it is possible to set the framework for an analysis applicable to the threats that affect the different fields of observation: environment, health, scientific and technical progress, economy, politics, social life (crime, poverty, unemployment, exclusion and marginalization, migration, war and terrorism). It will then be necessary to isolate the factors which lead from risk, danger, nuisance, peril, etc. to threat, and which concern:

- The nature and location of the threat in the physical, material and natural world, or in the discursive, symbolic and ideological one.
- The cause of the threat, which leads either, in the first case, to the engagement of a human responsibility; or in the second case, to aim for pernicious intentionality.
- The responsibility in the occurrence of the threat that can be direct or indirect, individual or collective. In all cases, it is attributed to or contracted in the name of the protection of the common good.
- The intentions underlying the perpetration of the threat when it comes directly from a human source. They then refer to concrete or ideological objectives. These can range from intimidation, destabilization or change of opinion to nuisance and destruction. They can be a punishment, retaliation when there is imputation of fault or even sin, as in the case of fatwas.
- The conditions and effects of the threat: the uncertainty and imprecision of its occurrence; the extent of the damage it causes, which may go as far as death; the dimension of the evil that it involves as concerns the imaginary.
- The state of the threat targets: their vulnerability or resilience; the effects they are affected by at the level of experience and cognitive processes; the emotional dimensions of their relationship to the threat (anxiety, fear, etc.).
- The collective processes inducing the threat or induced by it: the role of political and media outlooks in the crystallizations of antagonistic social positions; massive mobilizations in the face of a threat; the guilt of vulnerable populations likely to become socially threatening by their protest or revolt.

For each of these dimensions, to specify its presence, form, and relevance for threats pertaining to the different fields singled out by research (from environmental to societal problems) would provide a comparative picture of threats. It would thus be possible to define modes of intervention adapted to their confrontation and to avoid the deleterious effects of certain confusion of ideas in rhetoric too often inclined to generalization.

These few proposals, which respond to the desire to outline a sort of inventory of the paths to follow in order to construct a threat analysis across domains and disciplines, certainly do not exhaust the problems raised by their emergence in the contemporary world. Nor have they sufficiently incorporated the richness of the reflections of social philosophy and the debates of which they are the object. It was simply a matter of sketching out a few lines of research that would allow a

psycho-sociological approach to contribute to reflection and joint efforts, from an interdisciplinary perspective.

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Chapter 3
Unbounded Environment, Risk Society, and Potentialization of Threats: A Challenge for Social Sciences

Lionel Charles and Bernard Kalaora

The questions of risk, threat and security lie at the heart of modern societies' concerns. They are at the roots of the registers driving the interrelationship between the collective and the individuals, at the origin of the modern notion of human rights and its contemporary extension to sustainability.[1] Nonetheless, the elaborations developed by each society show important differences, particularly concerning the status and the respective role of the individual and the group, of the particular and the general. On the other hand, developments in recent decades have brought an unprecedented extension and massification of often interrelated uncertainties, risks and threats: techno-industrial risks, environmental crisis, systemic financial crisis, terrorism, democratic crisis, future of globalization, etc.

The French modernization logic, established at the end of the war with a view to catching up with countries viewed as more advanced, has also been characterized by the major part played by the State, through the power of its administrative structure and its technical bodies. More recent developments have extended and enhanced these trends, emphasizing the pervasiveness of structural aspects, the vertical organization of power and the centrality of the State, normative logic, formal rigidities at the expense of more labile approaches valuing individual capacities and favouring society's own dynamics. With institutional entities in such an overhanging position, defining and categorizing problems, nourishing threats as much as they instrumentalize them, threat then loses its informative and instant alert function to be seen

[1] https://www.un.org/sustainabledevelopment/.

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rather as a general questioning of a disrupted collective order, thus obliterated in its meaning and its scope.

In France, such a dissymmetry has proved to be a massive obstacle to the establishing of a dialectic between risk and threat, as has been the case in Germany. Risk has been captured and reduced to its techno-engineering dimension, and threat discarded as an irrational, unfounded imaginary fear, ignoring its roots in subjectivity and individuality. Its spontaneous operative awareness, highlighted by the paradigmatic illustration offered by care regarding vulnerabilities (handicap, disease and hazards) (Gilligan, 1982) has been mostly ignored to the benefit of collectively run developments, supported for a long time by the Church before being handled by the State. The limited concern regarding the apprehension of dimensions such as race or, to a greater extent, gender particularly highlights the limited awareness regarding threat, as revealed, inter alia, by the recent developments and debates concerning harassment. Unsurprisingly, this dissymmetry goes along with the ignorance of the human sciences regarding the question of threat (Martin, 2013) with the exception of clinical and social psychology. Such a divide conveys the difficulty to grasp its collective dimension, with risk being foregrounded by social sciences in its engineering and managerial dimensions.

The dominant collective narrative, supported until the 80s by thriving social sciences, is of a massive modernization process profitable for all the components of society, not at all affected by the international tensions of the cold war, and with no hint of vulnerability. Both left and right implicitly share the idea of an unavoidably ascending evolution and of a redistribution profitable for all (Darras, 1966). The French dynamics rely on a specific framework in which the State plays a major part, while, at the same time, borrowing a large share of its models (socioeconomic, organizational, communicational, etc.) from the most advanced countries, yet claiming its own pre-eminence. The break initiated by the 1973 oil shock and its consequences are the more severe as they challenge the interventionist model introduced after the war without any reliable alternative to replace it. It is only in the 80s, with the mutation of the technological paradigm related to the communicational and digital breakthrough, the rise of unemployment, the multiplication of large scale industrial accidents and, in the background, the liberal turn, first poorly identified, that the notion of vulnerability surfaces within a narrow circle of the techno-structure and a fringe of researchers (Fabiani & Theys, 1987; Lagadec, 1981). The vulnerability reference itself reflects an ambivalent grasp of this uncertain context, perceived as a threat, questioning the structure of power, highlighted by the works of Legendre and Foucault. In a strongly structured, planned and ordered regime, any important fracture, whether technological, environmental or of another nature, is perceived as a threat, and, in the first place, of the rupture of this order itself (Lagadec). The dualism constituent of the French socio-political development, rooted in a generic rationality which strongly differentiates the decision sphere from ordinary daily reality, implies that risk is only considered in a sectorial and limited way. It is primarily appropriated by the techno-structure, regardless of any subjective dimension, rejected as irrational and unworthy of interest or of social implication. In contrast, the German

sociologist U. Beck has shown (1986) how the rise of risks in advanced modern societies transformed the perception and the nature of social relationships, introducing a wholly different reality, shattering the regime of social interactions. In France, the successive breaks and the previously mentioned crisis, the difficulty for institutional bodies in fully grasping, understanding and efficiently facing major stakes, such as the techno-economic mutation, increasing unemployment or the environmental crisis are collectively perceived as a threat. This has become an omnipresent feature of collective awareness and debates, reflected in the evolution of political forces and discourses.[2]

It is the question of this specificity, of the French reluctance to risk and of the dominance of threat that we wish to raise, based on a reflexion about the relationship between risk and threat, through three linked points. First, a general analysis of the relationship/distinction between risk and threat, and their reciprocal links. As a second point, we will engage in a deeper analysis of the trajectories of the notions of risk and threat, of the dimensions they overlay and of their avatars, taking support more specifically from the environmental field, to consider, as a third point, the axiologies underpinning resistance processes to risk and overexposure to threat. The choice of the environment is rooted in our knowledge of the field but also relates to its specific characteristics, its complexity and its proximity to risk and threat. It is also guided by the specificity, the increasing topicality and the scope of the questions raised by the environment, laboratory of the world mutations, from the point of view of its difficult integration into collective action as much as social sciences finding it difficult to grasp.

Risk and Threat

Embracing a multiform, subtle and complex reality, risk and threat are distinct but yet connected notions, whose relationships with hazard or uncertainty need to be clarified. Confronted with a prolific literature on the subject conveying relatively divergent views, we will only examine major features relevant to our subject. Inscribed in operative dynamics, risk is objectifiable and calculable (Bechmann, 2014). It also conveys a hold on reality based upon distancing oneself from it, when threat seems to relate to an individual or collective feeling of fear. This fear is immediately significant but also latent, with an emotional and subjective negative component, stressed and potentially lasting, not unrelated to a field of meaning and thus, de facto, an intentional social relationship.[3] Threat can be understood as a subjective correlate to danger and risk with an insecure connotation as to its circumstantial character, its more or less

[2]Threat has become a major feature of French socio-political life in recent years, until warded off by E. Macron's election in 2017, based on a powerfully renewed and proactive message and attitude, followed, a year and a half later, by a deep confidence crisis and social unrest.

[3]Threat cannot only be viewed as an occasional reality, it can also be the fruit of complex learning processes, with unconscious, as well as conscious dimensions, and memorial reactivations.

well defined outline and its possible lasting effect. Risk comes under the registers of initiative, action and undertaking. Its intentionality is also open to the widening of possibilities, when threat is rather related to a power relationship, an outgrowth of power, the imprinting of fear and the way it can potentially be manipulated, revived and heightened.

If risk has the benefit of a positive valence in a situation, and an elaboration aiming at an optimized management from the point of view of an actor involved in an undertaking, it nevertheless embodies a complex collective reality. A manifestation of freedom, a figure of intelligibility, it can also be understood as a vector for inequality, as it introduces a dissymmetry between its holder as a potential beneficiary of a profit resulting from its initiative and others, particularly those exposed to adverse potential consequences of that same initiative without benefitting from it. The genericity of risk thus calls for underlining its plural dynamics, its multiple related effects, their potential unequal distribution and the consequences that might ensue in terms of justice and the development of corresponding operative capacities: its potential function as threat.

If threat corresponds to the identification of a danger, leading to an alert and an adequate response, its French semantics cannot spare a more specifically political, even perverse, dimension, raising a question of meaning, intention and context. Inscribed in a meaningful and highly structured frame, threat then takes the meaning of the perception, subjectively felt, of an unfavourable balance of power between people or bodies. This induces a displacement of its emotional content from the intrinsic information it conveys towards the agent or the body supporting it. Such a process, with what it conveys in terms of occultation and inhibition of the capacity to act, leads, through its repetition, to this other form of fear: distrust. This inscription can be symbolically taken over, particularly by language itself and its ability to convey its imprint and meaning, thus acquiring an autonomous power of contamination, making it a particularly favourable vessel for its circulation. Thus the term ‘climate’ has taken, through the idea of climate threat, an expressive strength, a fictional subjective dimension, assimilating it to a quasi person: witness of its origin subsuming alterity, threat can give an abstract notion an anthropic dimension. Threat circulation can also constitute an imaginary form of apprehension of the world, a way towards its anthropization.

Threat has deep anthropological resonances, particularly through animism and the game of potentially occult powers it orchestrates. In line with its intersubjective logic, threat is rooted in vast historical and social imaginaries of vulnerability (religious and mythic narratives, invasions, wars and terrorism, plagues, natural disasters, meteorological hazards, social struggles, civilizational courses) explored by numerous historians (Duby, Cohn, Mc Neill, Delumeau, Leroy-Ladurie and Davis, for example). With the development of mass media and, more recently, social networks largely open to a wide range of manipulative uses exploiting the emotional conditions specific to these narratives, thus broadening their circulation and reinforcing their impact, this narrativity has undergone a true explosion.

In the previously quoted paper, Bechmann links the idea of risk society, promoted by Beck, with the distinction stressed by Luhmann (1993) between risk and danger.

Regarding risk, Luhmann emphasizes the dissymmetry between "those who make decisions and those who are affected thereby": for decision makers, danger is considered a risk, when it can mean a threat for those affected. The increasing complexity of the elaboration of collective choices transforms the configurations at play, whereby decision attribution can no longer be traced, thus increasing the frustration of the populations exposed and exacerbating the feeling of threat.

The distinction between threat and risk has a strong implication as far as behaviour and action are concerned. Risk is rooted in action and in a consciousness directly connected with acting, relying on a potential that only action can identify and assess. It is the engine and the instrument of experience, but it badly appraises the chain of implications it can entail. Threat, in contrast, is somehow a conditionality to action but, in this, also an element of social continuity through the sharing of the subjective matrix and of the social relationship at its root. Risk substantiates a wide and open field for anticipation and innovation insofar as it simultaneously means the acknowledgement of uncertainty, the exploration of situations and the spontaneous mobilization of capacities. Threat, however, instrumentalized as it tends to be in the French cultural world, denotes a form of confinement, inducing a rather restrictive configuration of the operative field. Risk appears able to ward off threat, overthrowing its negative dimension, introducing, through a preliminary valuation for a potential compensation, the possibility to overcome the corresponding deficit. Such a process stands at the basis of insurance, which itself has historically given its foundation and credibility to the notion of risk (Ewald, 1986). It reached a more explicitly formalized expression with the emergence of probability calculus in the 17th century (Hacking, 1975). A third function/concept related to the world of risk must be mentioned. This is alert, which can be easily distinguished from threat. Alert is meant to notify a potential danger, it manifests at the same time its recognition and the imperative, as well as the validity of its awareness.

As mentioned before, the massive extension of risks multiplies the occurrences of threats, and thus raises the question of both the collective and subjective conditions to face them. This, in turn, refers to the notion of trust in its full scope: individual and collective, social as well as economic or political, and to its meaning in terms of action potential. This then raises the question of democracy as a collective pre-emption of agreement processes, reciprocal understanding and dialogue over opposition, division or conflict[4] relying on sheer force. The distance imposed by the republican rational ethos aims to cut short these mechanisms, giving them a pre-established answer, with the negative implications we have identified in terms of unawareness and denial. In traditional society, individual as well as collective safety was guaranteed by religion and the implicit or explicit forms of interrelations and support it conveyed. The rise of risk allows forms of protection and communalisation confronting danger to develop based on autonomous choices relying on calculus and exchange rather than ontology. Nonetheless, in such a context, threat can take a very different dimension or colour: it does not only concern particular aspects, but

[4]A. Smith's thought articulates the intersubjective notion of sympathy with the socio-economic dynamic (Bessone & Biziou, 2009; Biziou, 2003).

the system of interrelations involved in the collective management of risks and the guarantees attached to it as a whole: the possible break of this context itself (systemic financial crisis, collapse of the social pact with its regressive manifestations, populism, authoritarian regime and fascism, etc.).

Through its dynamic reality, risk questions the fields of representation, substituting plasticity and movement to the fixed, the motionless; initiating a set of transformations challenging any perennial form of governance or rigid conception of ethics in the crumbling of shared references. From this perspective, its character is both renewing and integrative in terms of processes and dynamics, but also means an erosion of existing frameworks, questioning numerous distinctions. In terms of time, it plunges into historicity, combining past, present and future: the experience of the past allows for the consideration and management of possible futures at an—economically or symbolically—assessable cost. It induces a widening of temporalities, modifying, at the same time, their nature through the introduction of objectivation mechanisms. Risk has the potential to dissolve borders inherited from prominent and ancient cultural legacies and their fixist roots. Thus, in biology, the evolution theory is, through the idea of population, founded on the integration of the notion of risk in the very dynamics of the constitution of the living, relying on a process, observable through experience, of a prevailing adaptive transformation over the hazards each organism is submitted to. This dynamic has introduced a radical questioning of the notion of speciation, and thus of the separation between humans and the other living organisms which had been at the centre of the western tradition since Antiquity. Pragmatists, and particularly J. Dewey, have focused their thought on the implications of the integration of Darwinian understanding, its dynamic and plasticity (Cometti, 2016; Dewey, 1910), into social thought.

As a conclusion on this point, we can recall the opposition between risk and threat concerning the psychological tropes underlying them. Risk depends on a positive valence regarding danger, acknowledging but also causing uncertainty. It is at the opposite of threat, with its limiting implications in terms of action but its extension in terms of circulation, potentially open to the paradoxical claim of the certainty of a possible misfortune, with its potential reversal in terms of regeneration, highlighted by the idea of a desire for disaster (Jeudy, 1992).

In contrast, and notwithstanding the Revolution, French society remains characterized by a pyramidal, centralised state power with the administration as its instrument. Its structuration is grounded on a wide process of figuration of the social on the basis of rational requirements (republican principles, discursive and categorial constructions) aiming at developing and controlling collective action, which culminates with the providence state. Inseparable from the national modern state, it presents itself as objective, in its function of representing reality, to propose a stable, predictable figure for a population and in a territory defined and circumscribed. In such a context, where the individuals are dispossessed, de facto, of a part of their prerogatives to the benefit of powerful authorities, subjective records of fear and threat are, paradoxically, more widely present, structurally linked to a strong dissymmetry between power bodies and individuals. The providence state (Ewald, 1986), powerful, encompassing and protecting guarantor, paradigmatic figure of a tutelary management of risks, is an

obstacle to their grasp in their multiform and all-embracing dimensions and to the capacity to adopt an autonomous position regarding the stakes they raise in terms of threat.

Risk and Environment

Field of public action, environment is a generic term to name a characteristic feature of all living beings, the outside world with which they are in relation and on which their existence depends in multiple ways, through permanent exchanges: water, air, resources, predators, etc. It encompasses a reality of permanent change and renewal, both dynamic and unstable, first fully grasped through the theory of evolution, and not devoid of danger. Environment maintains a proximity with the notion of risk, although it comes under a very different epistemic constitution: on account of its plasticity and its complexity, it extends far beyond the scope of risk, which bears the weight of human interests, as illustrated by climate change and its extremely wide range through which it ultimately escapes accountability, whilst only authorising limited but iterative apprehensions. Environment is multiscalar, from global to local, as well as cross-sectional to the arrangements of collective organisation, whether institutional, academic or social.

It is through technological and environmental hazards labelled as risks that risk entered the public sphere at the turn of the 80s in terms of engineering and management. With this came the term 'vulnerable society', stressing the awareness of collective fragilities regarding what were seen as new risks. The notion of vulnerable society (Fabiani & Theys, 1987) conveyed the idea of a threat weighing on society rather than a perception of an internal collective dynamic confronted with a new reality, as put forward by the idea of risk society (Beck, 1986). Owing to the proximities between technical organisations and power structures, illustrated by the "grands corps[5]", risk, in spite of the efforts to have it publicly shared, has remained, in France, confined within the techno-structure and decision-making spheres. The multiplication of risks has caused the development of functional differentiation, resulting in the complexification of the institutional system, the fragmentation of decisions and the increasing difficulty of their coordination, the blurring of their apprehension, but with hardly any significant evolution concerning risk collective sharing. For more than two decades, schemes of all kinds have been multiplying in many different fields (transport, territorial coherence, air quality, particulate matter, energy, climate change, environmental health, etc.) with little results in managing the existing problems for lack of, among other things in a context of an ever expanding economy and technology, in depth investigation and analysis of its social dimensions, along with the precise follow-up of implemented policies and adapted assessments. This has led to—as well as originating, in a feedback loop—a recurrent underestimation of problems in their multiple articulations, and the exacerbation of threats.

[5]Large technical bodies, such as the "Corps des Mines" or "Corps des Ponts".

The evolution of environmental policies and the development of social sciences in the field seem to have been sharing the same difficulties. The recurring weakness of environmental policies in their sectorial structuration and their normative legal elaboration can be related to a field whose scales and dynamics have been constantly expanding, transforming and moving. This unanticipated extension and complexification of environmental processes and the lack of any real grasp of their epistemic specificity echoes the large difficulty of social sciences in integrating environmental questioning. This holds to but also emphasizes their anthropocentric rooting, their conceptual paradigm awarding other academic disciplines (life sciences, physics, chemistry and geography, etc.) the "property" of the field, their epistemic structure being an obstacle to an approach integrating ecosystemic, biological and social dimensions and processes in a single perspective. Social sciences are strongly characterized by a tropism for certainty, determinism, regularity[6] and causality in their aim to explain the social. Environment, however, is related to a much wider reality, to issues pertaining to action and action consequences and thus indetermination, which basically induces incompleteness and interdependence relationships, without, for all that, challenging scientificity, while relativizing its perspective.

However, it is possible to underline, within social sciences, the rise of a pragmatic and empirical turn of certain sociological currents, which try to pull themselves out of a rationalistic, determinist and anthropocentric view. The difficulties raised by environmental questions for sociology nevertheless remain very important, particularly as to the spatio-temporal scales of the phenomena to be investigated, the potential publics of inquiries, and the difficulties weighing on the reception of their results. The perception of phenomena is dependent on cognitive filters, preconceptions, representations historically rooted or socially built that limit the understanding; favouring certain aspects, while leaving others in the shade.

Trying to review the attitudes confronting this situation, deeply new and narrowly related to the economic conditions we benefit from collectively, it is possible to record, without any claim to exhaustiveness, configurations of a very different nature, even highly contradictory. These are fall back positions, related to an incapacity to act, anxiety, inhibition, disaffection, doubt, denial, scepticism and conformism. Or, in contrast, maximalist attitudes: voluntarism, unreasoned optimism, technological headlong rush and social activism, etc. The proliferation of disparate attitudes strengthens the feeling of confusion and inconsistency, and increases anxiety and threat.

[6]In an interview on the program *A voix nue* (France Culture), on 29th October 2016, the French sociologist, L. Boltanski declared he had been involved in sociology to reassure himself with the feeling that the world, as incoherent as it seemed, could still be grasped through regularities. It is an opinion widely shared by sociologists of that generation.

Axiology of the Processes Whereby Threat Builds up

We shall now present a short overview of the processes of collective development underlying different points of view—phenomenological, epistemic, linguistic and socio-political,—which shed light on our previous description and analysis regarding threat.

At the phenomenological level, modern societies are confronted with a condensation of temporalities in a general context of acceleration and proliferation of phenomena due to the global grip of economic mechanisms and the general evolution of technologies. Acceleration is due, as shown by the German sociologist Rosa (2010), to the multiplication of tools available to individuals, and therefore of activities. Another aspect of this proliferation is a feeling of loss of capacity, causing frustration when faced with the vast possibilities raised by the diffusion of information and knowledge. Such a process causes, in an ordered, hierarchical and rigid context, an amplification of the feeling of threat. It provokes, generally speaking as well as concerning the environment, an emergency tyranny, which is the more paradoxical, in that latter case, as the environment is a matter of long term action and strategies. The multiplication of unpredictable phenomena tends to arouse defensive cognitive and practical mechanisms, in an effort to encapsulate an apparently elusive reality. The feeling of emergency stems, in part, from the difficulty to build images of unprecedented phenomena in time and scale and recognize their specificity. This can be illustrated with the modern understanding of climate change, starting in the 50s (Revelle's work, beginning with Keeling's measurements), recognized scientifically and politically in the 80s (Charney report, IPCC creation), though not without reluctance. This led to a first partial international agreement in the late 90s (Kyoto protocol), which was challenged ten years later (Copenhagen conference), with a new agreement reached in Paris (2015). Based on a new strategy, its results remain unclear despite important steps forward.

At the institutional level, decision-makers, confronted with entirely new situations, appear powerless, as much conceptually as practically, regarding environmental as well as other uncertainties. They tend to lean on traditional management techniques using recognized knowledge, maximizing expertise and norms instead of freeing initiatives and broadening the field of what is possible through favouring innovation in its diverse technical, as well as social components. This phenomenology results in reducing the "capabilities" (Sen, 1984), the field of action through constraining effects and the limits they draw, thus increasing the frustration and discontent of populations. As we have already stressed, the French tradition, characterized by the weight of the "grands corps" and a techno-structure's training barely open to immanent forms of social transformation, is not conducive to the publicizing and sharing of risk.

The political arena is strongly shaped by a conceptual repertoire favouring rational abstraction rather than lived, concrete experience and acting, as suggested by notions such as citizenship, representativity or even equality (Sénac, 2019). It presents an obstacle where individual, subjective and even intimate registers, which are those

of advanced modernity, must be fully taken into account. This entails an increasing inability to face and manage the complexity of a plurivocal world, particularly as far as the environment is concerned, with the necessity to work precisely on the concrete dimensions and processes rather than establishing stabilized concepts and representations about them.

These elements can be seen as the product of a deeper reality organizing the collective functioning, whose mark can be found in the relationship to knowledge, in language, in the constitution of the political field and in social sciences. The relationship to knowledge is the key to the epistemic frame underlying this collective construction. It is rooted in the assumption, inherited from Greek philosophy, that knowledge precedes action and can only substantiate its course, orientation and scope. This assumption relies on the disqualification of spontaneous, empirical or sensitive approaches in favour of formal and conceptual mediations only able to organise individual and collective dynamics around a set of values supposedly acknowledged and shared by all. A wide part of modern experience has shown the improper character of such a conception, but it is nevertheless inscribed at the root of the educational, technical, social and political organisation, and weighs heavily on the approach of problems. It represents an obstacle to a better recognition of their complexity and a better understanding of how to behave and act to face them. The environment is probably the field which best illustrates this aspect, allowing its full scope to be measured, but many different fields offer numerous other examples as well.

Regarding language, submitted to the institutional control of the Academy, which formalises and thus legitimises its developments, its learned uses are also the result of discursive constructions. The requirements for formalism, rigour and demonstrativeness lead to a situation that impoverishes signifying resources, limiting their scope in the face of the complexity of reality. This constricted use of language bears witness to a latent pressure on the expressive field that can be assimilated in a threat, if only of disqualification. These discursive arrangements permeate the collective functioning, testifying to a pervasive latent dynamic of hierarchy, power and authority well described and analysed by authors as different as Elias, Bourdieu, Legendre, D'Iribarne and Foucault, and whose outgrowth underlies the running of mass media and communication processes.

The same processes characterize social sciences, which largely remain submitted to the theoretical constraints of a conceptual and methodological apparatus, increasingly looking far too narrow and dated in a situation where it is no longer relevant to separate the human field from its articulations with the biogeophysical world. These constraints reflect the historical construction of the discipline, as well as they structure its functioning and developments. The pervasiveness of this theoretical framework has gone along, in the case of the Bourdieusan current (2001), with an epistemological oversight seeing discrepancies as a potential threat to the discipline, and thus unfavourable to the building of bridges with such an open field as the environment. Poise, power, legitimacy conflicts, particularly exacerbated in the academic world, are an obstacle to more flexible and shared relationships. Sociology has not succeeded in taking advantage of the levers offered by the environment's transnational character to develop a better grasp of the social, cultural and political specificities attached to

it. The environment can be seen, through its global character, as a privileged tool to apprehend societies' operative resources and their diversities. Sociology, a potentially reflexive discipline, has only occasionally been able to address the question of the multiplicity of the other scientific fields involved in the learned approach to the environment. In contrast with Anglo-Saxon sociologists such as Law, Jasanoff or Wynne, French sociology's hard core has refused to cope with its incompleteness regarding the proliferation of knowledge, whether general or more specifically in the environmental field. Though sociological works in the environmental field tend to multiply, with wider and wider and more and more open approaches covering more and more diverse topics, health, food, climate, energy, cities, etc., they remain limited in scope with a restricted audience as a field of thought able to shed light on a complex reality. This deficit is linked to the weight of the segmentations compartmentalizing society and that also affect sociologists themselves, deprived of shared experience, which cannot exist without previously acknowledged mediations (Charles, Kalaora, & Vlassopoulou, 2017). This configuration reflects the resistances of French society to the promotion of more fluids forms in interaction with social and environmental processes, with such resistance demonstrating the strength of the structural rooting characterising both institutions and society.

Conclusion

Republican principles (freedom, equality, citizenship ensured and guaranteed by the State) have set the basis of a control wielded by and on society through political representation (Rousseau), which thus acquires a superego function. This control, in its multiple constraining, restrictive and conformist manifestations eventually results in turning against the collective itself, as a hindrance to the spontaneous dynamic of society, depriving it of a whole field of resources. The constitution of this paradoxical collective matrix, meant to ensure and protect the freedom of the individual in the name of equality, turns against those individuals in the way it deprives them of the full operative capacity freedom is supposed to entail. Such a process, which could be assimilated to Bateson's double bind, is deeply disturbing. At first, it seems a vector for threat in the permanent potential confrontation with power or the part it plays in managing risk. Secondly, it is even more problematic in the contradictory injunction to the individual to exercise a freedom whose conditions are partly denied.

The French socio-political system is rooted in a generic process of figuring the social, instrument of power, through capture mechanisms grounded in classification, ranking and categorisation operations for the benefit of an architectured and encompassing representation of reality. These imposition processes have multiple transcriptions and are, in particular, inscribed in ordinary language, as well as in the vocabulary of social sciences. The lesson to draw from complexity is that it cannot be dominated, but can only be accompanied, reality being always ahead of the attempts to capture it. It cannot come under a structured, univocal, once and for

all set apprehension. It demands an acting position, without any possible neutrality, and the involvement in contingency, displacement, unpredictability, reversibility, plurality and non-reduction to categories. This situation calls for widened cognitive resources, permanent investigation as suggested, for instance, by Dewey through his inquiry theory, and for multiple forms of experiment. It relativizes how threat can be seen, in the way that action's function is precisely to stamp out its grip.

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Chapter 4
Transcendental Damage Versus Global Risks

Dominique Bourg

Our entry into the Anthropocene opens a dramatic new page in the now inextricably entwined history of human beings and the Earth system. Despite all our knowledge and all our models and the vast amount of data gathered, it is hard for us to conceive of a future so far beyond human experience: we are witnessing the irreversible degradation of the Earth's habitability. We have no yardstick, no testimony from the past to gauge it by. Added to that is our tendency to apprehend future threats by resorting to the hackneyed category of risk. The notion of "risk" can even be said to have dominated the last quarter of the 20th century. All, or nearly all, of today's global environmental threats are seen as risks. The book that contributed most to the development of this category is Ulrich Beck's *Risk Society* (Beck, 1986—translated by Ritter, 1992). His argument was that reflexive modernization—modernity that was aware of the hazards it was exposing itself to—had replaced an innocent modernity, one that was oblivious to the damage being inflicted on the environment. This innocent modernity focused on social issues and conflicts inherent to labour's claim to an equitable share in the fruits of production. The author claimed that the phrase "I am hungry" summarized the driving force of the early industrial society and had been supplanted by the statement "I am afraid." Fear motivates our contemporaries, relegating conflicts between capital and labour, and between rich and poor, to the background.

But who is really afraid of climate change to the extent of changing his or her behaviour and values? As for inequalities, they again became a central issue right from the start of the twenty-first century. Furthermore, the idea of a once-naive

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modernity, blind to the risks generated by the process of industrialization, does not stand up to scrutiny. As historians such as Jean-Baptiste Fressoz (Bourg, Joly, & Kaufmann, 2013; Fressoz, 2012) have shown, champions of industrialization were entirely conscious of the real and potential damage that it caused, but chose to assert that the benefits of industry would easily outweigh the harm it caused. The awareness of our negative impact on the planet has thus in no way limited the damage we inflict. On the contrary; over and beyond this simple observation, the uncritical use of the category of "risk," to refer both to "typical" local environmental degradation and to ongoing and future global harm is misleading. It leads to underestimating the new difficulties we have brought about and continue to provoke. In other words, "risk" promotes a skewed and attenuated perception of our transition into the epoch mentioned above since the 1950s, the Anthropocene.

Prerequisites of the Risk Society

According to the standard definition, risk associates unforeseen occurrences, i.e., unexpected and unwelcome events, with vulnerabilities, i.e., damage or harm. In other words, events, whose probability can be calculated, and whose occurrence leads to material damage affecting human beings. Even if the possible etymologies of the word "risk" go much farther into the past, we can reasonably say that today's concept of risk arose out of the famous quarrel between Rousseau and Voltaire over the paths of Providence in the Lisbon earthquake in November 1755. In answer to Voltaire's interpretation of the event as a failure of Divine Providence, Rousseau invoked human responsibility. It is by human fault alone, he argued, and not God's or nature's, that multi-storey buildings were built on this site, that people returned after the first tremors, etc. This quarrel affirmed the idea of the inalienable responsibility of humankind for the damage it can cause.

This is no doubt a form of simplification, because human beings have probably never placed blind faith in the gods. The Roman magistrates did not need Rousseau to know the need to build dikes any more than Roman generals awaited the verdict of the oracles to prepare for war. On the other hand, in imputing individual responsibility for risks, Rousseau, last among the great theorists of social contract, stipulated as a prerequisite of risk and its assumption, the emergence of a society of individuals. "Individual" clearly should be taken not only in the physical but also in the moral sense. Society consists of a group of differentiated individuals, as formulated precisely by 17th and 18th century social contract theories. Along with postulating a natural state, these contract philosophies asserted the primacy of the individual and saw politically organized society as an association voluntarily created by individuals so as to defend their interests better than they could ever be defended in their initial state of nature. This society would gradually take shape over the 19th and 20th centuries. Unbound from traditional forms of solidarity and protection, individuals would find shelter under the aegis of an insurance system and social legislation. This insurance-based society conditioned the development of economic activity undertaken by autonomous

and exposed individuals. Within this society, where individuals are less attached to familial and community forms of solidarity, risk has become a sort of total social phenomenon. Individuals no longer feel tied to one another and take risks individually, because they know that, in part, they are protected by an insurance safety net. From ship owner to captain of industry, from motorist to single man or woman, from union activist to athlete, everyone knows that he or she is under some form of protection. This assurance is an essential condition for the individual exercise of choice.

Added to this first condition for resorting to the category of "risk," that of a society of individuals, is a second one: the development of currency. The insurance system that is supposed to shield us from risks indeed could not exist without currency. Risk is welded to mechanisms of indemnification and financial compensation. And these mechanisms are meaningful only if risk, or more precisely its potential realization, legally affects only a limited number of individuals, never the group or society as a whole. This is true of all categories of risk: trade risks, maritime risks, natural disasters, road accidents, illness or unemployment. If the realization of these risks should come to affect the whole of society, the entire insurance system would collapse. That is why insurance systems are suspended in the event of war, as damage becomes systematic, no longer affecting only individuals but the whole society. Added to this is the fact that such a system, which compensates diverse forms of damage, requires currency to be seen as a universal equivalent.

The opposition between the society of individuals and its insurance system versus the traditional, holistic society is clear to see. The existence of strong clan or family ties of solidarity necessarily limited monetary exchange. For instance, the transfer of land ownership in exchange for money could be forbidden, as could interest-bearing loans. In lieu of an insurance system, there were other forms of family or social protection. The tithe, for instance, made grain storage possible so that the community could survive famines or other periods when the price of grain rose.

Transcendental Damage Versus Global Risks

The threats we face as we enter the Anthropocene—rising average temperatures, rising sea levels, extreme weather events increasing in frequency and intensity, changes in precipitation patterns, growing scarcity of natural resources, the advent of the sixth mass extinction (Ceballos, Ehrlich, & Dirzo, 2017) and the approach of tipping point for ecosystems around the world (Barnosky et al., 2012)—do not come under the category of risk as we have just described it.

First of all, these threats are no longer a simple matter of unforeseen occurrences. Certainly, we can always label a particularly lethal hurricane, a deadly heat wave or severe flooding as such, but these events themselves are exacerbated by underlying mechanisms of environmental pressure, such as changes in the chemical makeup of the Earth's atmosphere. Incremental degradations over a long period of time can lead to critical transitions, resulting in a threshold-induced state shift in the Earth system. Transcendental damage cannot be ascribed to a single event.

Transcendental damage is tied to an evolution in the Earth system that is not bound by time or space. The changes that we are beginning to experience are taking place across the globe, even if their effects vary considerably from one region to another and can even be beneficial in some regions, especially in the upper latitudes. Siberia and Canada alike will see their areas of cultivation extend northward. But there again, these benefits will be offset by other deleterious effects, such as emerging viruses, and will only be short-lived if too great a rise in average temperatures occurs. With a 16 °C-rise in temperature, mammals would become extinct. That would constitute a radical shift, to say the least, in the state of the Earth system, which would be preceded by many other upheavals, starting at much lower temperature thresholds. The threshold for highly significant damage indeed appears to be located at around a 2 °C increase. With this average warming effect, in addition to the risk of the system spinning out of control, we will leave behind a long period of average temperature variations that life has adapted to over the past 2.6 million years, during which glacial and interglacial periods have alternated, with more or less the same species migrating from the upper latitudes to the tropics and back (Mélières & Maréchal, 2015). It should be noted that with an average temperature increase of more than 3.7 °C, Southwest Asia, the Persian Gulf could become uninhabitable in summer due to heat stress and very high humidity levels that would surpass the human body's thermoregulation capacity (Im, Pal, & Eltahir, 2017; Pal & Eltahir, 2016; Schär, 2016).

With regard to duration, transcendental damage is potentially endless. The change in the chemical makeup of the Earth's atmosphere mentioned above is a phenomenon destined to endure tens of thousands of years. Millions of years must pass before evolutionary recovery can compensate for the extinction of species underway and yet to come. To speak of risks is utterly meaningless in this situation.

Financial compensation or indemnification for damages is part and parcel of the risk society. Compensation and indemnification for transcendental damage, however, is out of the question. If, as many studies foresee, world grain production were to diminish considerably over the second half of the century, or even collapse—during a heat wave the growth energy that plants can still muster is diverted from their seeds or fruit due to the water stress that goes with it, a phenomenon itself compounded by other difficulties—it is hard to imagine what sense there would be (not even considering the mere possibility) in indemnifying the hundreds of millions, even the billions of human beings suffering from hunger. Ponder, for instance, the simple fact that France at the end of the century could experience heat waves higher than 50 °C (Bador et al., 2017). It is worth recalling in this regard the above-mentioned possibility that South Asia could become uninhabitable. To add another layer to these gloomy perspectives, the disappearance of humanity itself, having succumbed to a system collapse, makes the idea of compensation-indemnification even more absurd. Indeed, it makes no sense to want to compensate severe degradation of the planet, exposing us to recurrent and systematic heat waves, droughts that destroy world food production, a notable receding of coastlines, the salinization of groundwater in coastal areas, large-scale desertification, the proliferation of pathogens, devastating hurricanes, cyclones and storms, and in the long run a state change in the Earth

system that would end up challenging our ability to adapt. And this, moreover, on an Earth depleted of biotic and abiotic resources from organic or mineral matter.

The challenge we are facing concerns not the kind of changes that occur under specific living conditions, in such and such a country, a given type of habitat, and so on, but the very conditions that enable the development of human society, and the existence of each one of us. The issue here is not one aspect or another of the *conditioned,* but the conditioning factor itself, the habitability of the Earth system as such for human beings and other species. It is not one type of economic activity or another that is under threat, but the very possibility of exercising such activities.

We are thus indeed dealing with a form of the transcendental. Not in the Kantian sense, however, that of categories of understanding and a priori sensible intuitions of time and space. No, here I am talking about a concrete, embodied transcendental, that of our natural conditions of existence, which refer to the state that we have known and still know that ensures the habitability of the Earth system. This in turn goes back to the main biogeochemical cycles of the Earth system, their equilibrium, the distribution between certain reservoirs and fluxes, for instance the quantity of carbon brutally extracted from the Earth's fossil fuel deposits and released into the atmosphere.

Speaking in terms of global "risks" misses the unprecedented nature and extent of the harm we are causing. "Risk" has lost its pertinence. It calls up a category that is no longer relevant here. Risk means "taking risks," overcoming one's faintheartedness, making a wager. Now, if there is any kind of wager that makes no sense, it is most certainly when the stakes involve something that cannot be bet on, in other words the existence of humankind itself. This existence conditions the very possibility of any form of individual or collective wager. The existence of humankind is not up for bets. By placing economics and its vocabulary, that of risk, above everything else, we have inverted a fundamental hierarchy: *we have placed what is conditioned over the condition of its very existence*.

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Chapter 5
Modalities of Perceiving Threats: The Time Factor

Henri Atlan

I propose to give you a brief account, far from exhaustive, of different forms of threat. I will do so not from the point of view of their nature, but from that of the emotional, rational and other reactions we experience in relation to them. From this perspective, time is a discriminatory factor playing a considerable role.

Of course, it is far from the only one and we could, for example, refer to the gravity of the danger posed: whether it is natural, non-human or human; or whether it is of an individual or collective nature. I will, however, restrict myself in this respect to the fact that when we are confronted with a terrifying event, our reaction depends on whether the threat is immediate or in a possibly distant future. As we shall see, this sounds rather obvious, but it is not quite as simple as it seems.

Reactions to Threat and the Time Factor

Regarding the case of immediate danger, when the threat is there and tangible, William James, a pioneer in experimental psychology, made an interesting observation in 1884 that has been confirmed today by the cognitive neurosciences. This observation is the following: usually, we believe that a feeling, like anger, fear, anguish, sadness or, in contrast, joy is the cause of the physical manifestation of emotions we witness in skin becoming paler or reddening, trembling, tears or laughter. According to James, it is the reverse:

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> The more rational statement is that we feel sorry because we cry, angry because we strike, afraid because we tremble, and not that we cry, strike, or tremble, because we are sorry, angry, or fearful, as the case may be (James, 1884; Atlan, 2018—ch. VI).

In other words, we have here an inversion of time which is counter-intuitive, but which has been confirmed by the work of numerous neurobiologists who have studied the mechanisms of the neurobiology of the emotions. This observation is interesting because it demonstrates the unconscious part of the immediate reaction, therefore the reflex, so to speak, to a frightening event. Thus, depending on the individuals, their history, their usual environment and the circumstances, this will lead to different reactions: to flight or defence, possibly even to a state of shock and incapacitation or to yet other reactions.

Obviously the situation is different when the issue is one of a future threat, but the feeling and the emotion, in other words, the affect, is always there even if it does not appear as intensely. In this case, the threat is different, or at least it is perceived differently depending on whether the future is close or distant. Indeed, in a situation where the threat is for tomorrow, or the day after tomorrow, or in one, 10 or in almost 100 years, we have the time span of a conscious representation of the imminent danger, and the strength of the corresponding feeling and the emotions which are obviously not the same. In terms of action, their consequences will obviously not be the same either. But the feelings and the affects which accompany the representations are still there and they are all the stronger, naturally, when the threat is for a future close to the present, for tomorrow so to speak. This is expressed in Proposition 10 in the **Ethics** of Spinoza:

> P.10: We are affected more intensely toward a future thing which we imagine will quickly be present, than if we imagined the time when it will exist to be further from the present. We are also affected more intensely by the memory of a thing we imagine to be not long past, than if we imagined it to be long past. (Trans. Curley, p.551) (Spinoza, Ethics, Part IV, Proposition 10).

In other words, what is not present is experienced more intensely as the likelihood of the occurrence of the event approaches. Once again, this appears to be obvious, but it is not as simple as one is tempted to believe. It is interesting to stress that in this Proposition, we are envisaging a future event we *imagine* is going to take place, and this means that we are not considering here whether the nature of the threat in question is real or imagined. In other words, in this context, the question posed is how we imagine a possibly catastrophic future which is frightening: the question concerns the value of our forecasts. We therefore have to read Spinoza's Proposition 11:

> P.11: An affect toward a thing we imagine as necessary is more intense, other things equal, than one toward a thing we imagine as possible or contingent, or not necessary. (Trans. Curley, p.552) (Spinoza, Ethics, Part IV, Proposition 11).

This means that, in certain cases, we can predict a future event as necessary, that is, inevitable, with certainty; or at least as far as we believe it to be certain.

Impact of Threat Evaluation

This is particularly the case when we evaluate threat using, sometimes but not always, rational, scientific methods that lead us to deduce the occurrence of an event on the basis, for example, of the necessity of natural laws. For example, we can imagine that if an accident occurred when a rocket was going into space, we can predict with certainty what would happen, not in an immediate future but a future which can be measured in a number of hours, or even days. In other cases, reason leads us to predict an event, not as certain, but as simply possible: there we can attribute probability to this event but not certainty. Here we find ourselves in a situation of total uncertainty as to the occurrence of a catastrophe, which may nonetheless be possible. This is the scope of application familiar to you, the somewhat controversial scope of the well-known precautionary principle to which I do not wish to return at present.

But even in cases where we can make use of statistics, we know the role of subjectivity in assessing a probability. One chance in five, in other words 20%, of suffering from a serious illness, which means 80 chances in 100 of escaping it, is perceived as a terrifying threat by some or not as frightening as all that, and even, perhaps, a reassuring prediction for others. We are also familiar with the cognitive bias already mentioned, by which a possible, but rare, disaster, such as a plane crash, is more frightening than a car crash, whose probability is nevertheless much greater.

Here are a few examples of different ways in which we assess reality and the strength of a threat. *Extrapolation* from the past and the present is probably the most usual way, especially since it takes a mathematical form, making a strong impression when it is believed to be irrefutable. This is what the mathematician, Rittaud calls 'exponential fear' (Rittaud, 2015). The author shows clearly that it is exponential growth in itself which is frightening, because its extrapolation leads very rapidly to astronomical numbers, whose enormity causes total shock. I can give you an example, which I experienced with a number of friends, quite a long time ago. In 1974, a book was published which caused quite a stir at the time. *La Surchauffe de la Croissance*, by François Meyer, told us that we had reached a period of demographic growth that was not only exponential, but over-exponential, so that the curve rose vertically. The consequence was that in several decades, now in other words, there would be so many of us on earth that we would not be able to stand up, squashed against one another like in the underground at rush hour. Some intellectual circles reacted to this prediction, which seemed to be perfectly rational. Merely glancing at the vertical curve led us to say "I don't believe it." There are bound to be some disasters before that happens. Well, as you can see, we have reached that point and these catastrophes have not occurred, because at the time, no-one had imagined the effects of demographic transition causing the curve to flatten as it is now.

As well as extrapolations, other perceptions are produced by *permanent threats:* certain disasters recurred in the past and are inevitably bound to recur, but we cannot predict when this will happen. Earthquakes are a perfectly obvious case in point: we know they will recur in certain regions—Japan is a well-known example—but

obviously, we cannot predict when or how powerful. In San Francisco, all Californians know—we all do—that the "Big One", the major earthquake recalling the huge one at the beginning of the twentieth century which destroyed almost the whole of the city, is bound to happen. So everyone is awaiting the "Big One", because there are clearly small ones which occur from time to time. Precautionary measures are taken, as they are in Japan, which consist in endeavouring to ensure that new constructions are earthquake-resistant. But, in this situation, the reaction is a mix of habituation—people get used to the threat - and a degree of repression. The Big One is not something which people think about every day; nor are future earthquakes a constant preoccupation in Japan.

I would like now to point out something that is really interesting: a *compression of time* close to the miraculous. In some cases, there is a threat for a fairly distant future, which, normally, is not very troubling precisely because it is in the distant future. But this threat is strengthened by being made present. How is this miracle achieved? It is produced by an intentional or unintentional confusion linking and identifying the future threat with another threat, which is different but actually present. A current example is that of climate change, which is now forecast to be effective in about 100 years from now, that is towards 2100, but which is made topical. This has the effect of reinforcing the emotional reactions towards it. It is made topical by the production of spectacular events which are already, today, the cause of verifiable damage and with which it is associated. All these events are bracketed together in the all-purpose phrase 'global warming', whereas they are all different. Their causes and effects are different. Take, for example, airborne pollution and that of rivers, oceans and soils, with their very real medical implications.

Collective Representations of Threats

We must bear in mind that representations of threats are not only the work of individuals but also of societies. There are many examples: the fear of the year 1000, of the year 2000, etc. In this case, they may take the form of rumours which spread and contribute to what is known as 'public opinion'. There are instances when collective representations of this type concern threats for the immediate future and the rumour itself may constitute a threat for the stability of the society.

In reality, this is a phenomenon which has long been acknowledged. The Greek historian, Thucydides spoke of it in connection with the Peloponnesian War. It is a phenomenon which is, to a large extent, associated with different forms of misuse of language. But today this phenomenon has taken on a new aspect and further dimension with the appearance, at the beginning of the twentieth century, of advertising, public relations and communication as professions. This began in 1928, with the publication of *Propaganda* (Bernays, 1928). The author, Bernays, was a nephew of Freud and a journalist who immigrated to the United States in childhood. He published this book after witnessing the manipulation of American public opinion by the government, who had decided to enter World War One in 1917, whereas the

American population was, in general, opposed to it. Bernays had participated in this operation and he learned from it. In his book, he invented the professions of public relations, marketing and lobbying, which have now become known as 'Communications Consultants'. He described, in detailed and remarkable fashion, the majority of the means used subsequently to convince the public unobtrusively, using methods of influencing opinion which have now become commonplace, to get people to 'buy' something, anything; not only an industrial or commercial product but also an idea, a political programme, the election of a governor or of the president.

Since he was very long-lived (he died at the age of 100), he was able to see the implementation of his programme and witness, amongst others, the first election of a president of the United States decided, to a large extent, by this communication technique which was beginning to spread and be used extensively. Similarly, he saw the manufacturers of cigarettes succeed in selling their products to the other half of potential consumers, women. This was result of communication campaigns in which smoking was portrayed as a sign of women's liberation.

The Post-truth Age and Communication Systems

Amongst the publications analysing the role of lobbying and communication adopted by the media, we can mention *Weapons of Mass Deception* (Stauber & Rampton, 2003). But all this has now spread exponentially with the Internet and the social networks, amplified moreover by the conventional media, either audio-visual or on paper. In this respect, we note that they tend to amplify each other by the use of a very efficient mechanism, well-known in cybernetics, of reciprocal reinforcement by positive retro-action, or 'positive feedback'; as opposed to 'negative feedback', which is a regulatory factor.

The end result is, as Jean-Pierre Dozon has already mentioned, namely that post-truth has become a reality. We are now effectively entering an age of post-truth, in which it is not even a matter of lying. For if everything we said was nothing but lies, it would still be relatively straightforward: witness totalitarian regimes; all that we need to do is to remember the contrary. But we are no longer at this point. The very question of the truth of the news or of supposedly scientific knowledge is no longer the issue. We are now in the kingdom of the opinion poll, with the 'buzz' and the 'like' or 'don't like'. If we question the truth now, we sound like a nerd or a kill-joy who does not understand the new rules of the game. A public relations officer for a political figure who was criticized for not telling the truth coolly replied: "I'm not in the truth business." It is as if you were confronted with someone or something, a system, which says to you "I am a liar". This is the well-known paradox of the liar: you do not know whether or not you should believe them.

In other words, the question of the truth of what is said is quite simply not applicable. But what is more recent and perhaps even more serious is that science, which is presumed to be at the service of the search for truth, is itself also contaminated by communication and marketing which, to a large extent replaces information. Partial

or distorted scientific data is used by competing lobbies, like those for example for oil or nuclear energy, GMOs (genetically modified organism) and anti-GMOs, and the pharmaceutical industry is not far behind.

In this connection, my vocabulary in English has expanded and includes the curious expressions 'disease-mongering' and 'condition branding' used by professionals in communication. I found them in texts written by marketing and communications consultants employed by pharmaceutical companies. These professionals were explaining their techniques in journals specialised in their fields, since it has indeed become, as Bernays predicted, a real profession.

'Disease-mongering' means 'the practice of widening the diagnostic boundaries of illnesses in order to expand the markets'. In order to sell a new drug; it is obviously more efficient to begin by selling a new illness. 'Condition branding' means inventing a new name, a *brand* for the illness which will enable the new drug to be sold. We are not being over-cynical; there are numerous examples. The drug, Ritaline, is a fairly well-known one and really remarkable. A so-called Attention Deficit Hyper-Activity Disorder was suddenly discovered and described among restless children who had some problems at school. This discovery was very opportune, because the syndrome appeared at the same time Ritaline was put on the market and presented as the treatment which absolutely had to be prescribed for these poor children. I use the term 'poor children' because tens of thousands of children were literally intoxicated by addiction to what has now been proved to be a drug which is far from devoid of danger, being in the same family as amphetamines.

Finally, for the laboratories, it is also a question of selling dreams, with research programmes promising medical spinoffs, which make people dream. There is nothing better to achieve this end than a mix of fear and fascination. Genetics fascinated populations in the past, and still does, because of the extraordinary powers granted to genes, and to DNA in particular. As you know, this has now become synonymous with the essence of everything. We have not only the DNA of an individual but also the DNA of a political party, of a football team, a nation and of practically anything. In mythical-magic fashion, as we said above, the properties of the genes and of DNA have long evoked fear as well as fascination, and this has not yet really ended. But now *Big Data* has taken over with programmes of *enhanced human beings*, perhaps even immortal human beings, trans- and post-humanisms, funded by millions of dollars on the basis of unreliable data, bordering on the fraudulent. Yet all this, and it is the icing on the cake, is the subject of ethical discussions. These debates are very obviously necessary, but they only reinforce this mix of fear and fascination which sustains communication, as Bernays, our visionary author, had already realised.

In conclusion, a degree of relative optimism is perhaps still possible if we can trust the old adage that "truth is the daughter of time", which Francis Bacon took up at the end of the sixteenth century. It was the expression of a confidence that modern science, then in its early days, would gradually reveal hidden truths. Isn't the greatest threat confronting us now, however, the reign of rumour and communication?

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Chapter 6
In the Age of Societal Uncertainty, the Era of Threat

Dame Glynis Breakwell

This chapter considers how threat is created and controlled. Manipulation of threat levels is a basic and intrinsic component of social interaction. It could be argued that all power is reliant in one way or another upon influencing perceived threat. The techniques and instruments for influencing threat vary extensively. They are worthy of empirical study in their own right. This is particularly true because the media of information, interpretation and intelligence transmission are now changing and morphing so quickly—particularly as a result of digitalization revolution. Not only is their form changing but also the agents who can control them are changing. The result is the diffusion across many actors of the power to create and manipulate threat.

It is almost unnecessary to assert that threat manifests itself in an infinity variety of ways. As a result, of course, the concept of threat needs to be defined. However, gaining interdisciplinary consensus on what constitutes threat will not be easy and may be impossible. There are many forms or categories of threat. Threat is both a process and a consequence of that process. It is action and reaction. Slicing into this dynamic production using any single theoretical framework or any one disciplinary perspective is unlikely to be wholly satisfactory. Nevertheless, this chapter is produced in the belief that a systematic effort at identifying the social psychological dimensions of threat would have significant value. However, it will have greater value if it is set alongside other perspectives drawn from other disciplinary, theoretical and methodological traditions.

The notion of threat is interesting because, as a concept, it relies upon anticipation of what might be or what is expected to happen in the future. In this sense it is prospective and reliant upon an ability to think about the future. It is often, though not exclusively, founded upon some uncertainty—the possibility of some undesirable

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outcome, but not the assurance of that outcome. But it can also be founded upon an absolute certainty that something undesirable will occur but which is yet to happen. The prospect of one's own death could be an example of this latter type of threat (assuming that death is regarded as undesirable—and this is not always the case).

It could be said that threat is just one form of an underlying phenomenon—risk. This chapter will treat threat and risk as distinct—particularly from a social psychological perspective. Threat may sometimes be a product of the existence of risk but it is more than risk. Indeed, threat may entail the deliberate manipulation of the perception of risk. Risk seems to have first entered the English language in the mid-1600s, coinciding with the erosion of belief in divine determination of the individual's fate and the decline of the power of organized religion in the face of sectarianism and the growth of nation states. In the context of societal uncertainty and where personal harm is not viewed through the prism of fatalism, the word risk emerged. The concept of risk has evolved to be defined in terms of two dimensions: the first concerns probability and the second concerns effect (Breakwell, 2014a). In terms of probability, risk refers to the likelihood of some specific negative event (delineated as closely as possible in terms of amount, intensity and duration). In terms of effects, risk refers to the extent of the anticipated detriment (usually a numerical estimate of the harm) associated with the negative event. These two dimensions of risk are conceptually distinct.

Social science research on risk perception, management and communication has been extensive in the last forty years, in the wake of, and accompanied by, developments in risk assessment and amelioration in the physical and bio-medical sciences and engineering. The most important advances in the field of social science risk research lie in 4 overlapping domains.

The first concerns cognitive heuristics and biases that influence the perception of hazards and the risks associated with them (most notably the early work of Tversky & Kahneman, 1973, 1974; see Kahneman & Tversky, 2000). Such work has shown a significant range of predictable ways in which people interpret information about risk in order to protect themselves from the personal implications of the risk or to reduce the amount of cognitive effort they need to deploy when faced with complex risk. The second research domain focuses on individual and group differences in risk perception. This has covered pretty much every aspect of differentiation: personality, cognitive style, age, gender, nationality, belief systems, wealth, education, and so on. The conclusion is that there are differences between individuals and between groups in risk perception but their existence has not been subjected to any coherent systematic analysis (Sjöberg, 2002). Alongside the search for differences in risk perception has been the search for commonalities. This was particularly manifested in what is labelled the 'psychometric model' of risk perception (best represented in the work of Slovic, 2000). This essentially explored the multi-dimensional structures of the ratings of many hazards on many characteristics elicited from large samples of people (over time and across communities). While there were some variations across studies, the recurrent picture was one of a two-dimensional factor structure. Hazards were located in a two-dimensional space. The shorthand description of the model refers to the two dimensions as 'dread' and 'unknown'. It suggests that the

main way to understand reactions to risks is to assess how far they are dreaded and described/explained. The third domain of research concerns risk communication—how is risk communicated and what needs to be done in order to improve its communication. This work has been dominated by two approaches: the *mental models approach* and *social amplification of risk framework* . Fischhoff et al. (2000) summarise the mental models approach. The mental model is the system of beliefs (which can include explanations), with their affective connotations, that the individual holds about the risk. The suggestion is that if risk communication designed to change perceptions of the risk is to be properly targeted and optimally effective the mental model of the risk must be mapped and understood. This approach has led to many intervention studies, often in relation to health risks, designed to change risk perception and the behaviour to which it leads. There is evidence that preliminary mental modelling of risk perception can improve the efficacy of targeted risk communication. There is also increasing evidence that mental models of hazards are significantly tied to broader social representations of risk and influenced by identity processes (Breakwell, 2001b). The Social Amplification of Risk Framework (SARF) describes both the social and individual factors that act to amplify or attenuate perceptions of risk and then generate secondary effects such as regulatory changes, economic losses or stigmatisation of technologies. The SARF was originally proposed by Kasperson et al. (1988) and has been said to be the most comprehensive tool available for the study of risk (Rosa, 2003; Pidgeon et al., 2003). SARF focuses upon the social processes that underlie risk perception and decisions. It proposes that risk events have their impact not only through their primary physical effects but also, more importantly, through the way people and organisations communicate them to others. Such communication can amplify or attenuate the impact of the risk event. Renn (2011) illustrated this in respect to climate change perceptions. SARF makes it clear that risk, or a risk event, is given meaning through a complex and iterative process of interactions between different actors in the social structure (Kasperson et al., 2003). SARF is not itself a theory. It provides a conceptual framework for systematically exploring the dynamics of the social processes that surround a risk event. In fact, it needs to be used in collaboration with theories that seek to explain how those social processes operate. Breakwell has suggested that Identity Process Theory and Social Representations Theory (Breakwell, 2010b, 2014b) both offer the substantive theoretical bases for using SARF more extensively. The fourth research domain is more recent and has been concerned with the role of affect in risk reactions (Slovic, 2010). There is now a large body of research that shows that the emotional state of the individual at the time of a risk event will influence the perception of the risk and the actions taken with regard to it. Also, not surprisingly, it has been shown that risks will not only evoke emotional responses, they also have what might be called an affective signature that is part of their character. So, for instance, a risk can be characterised as dreadful by someone without initiating dread in that person.

These four research domains and their interactions have generated a very significant understanding of risk. There is still an enormous amount to be done but this work has transformed the way individuals and organisations manage risk. The relevance of these research areas can be seen in some other chapters in this book. It is

interesting to note that there is not the same level of empirical research or body of established findings on threat.

What then is the distinction between risk and threat? The distinction is not easy to crystalize in a way that is free from dispute. However, here, threat is not considered to be associated *necessarily* with any uncertainty—threat can be absolute and manifest (even though it refers to prospective occurrences). Whereas risk is always associated with some degree of uncertainty—whether in terms of likelihood of occurrence or in terms of extent of damage that will occur. Also, here it is assumed that for a threat to exist it must be inevitably associated with an aversive psychological or societal reaction (for example resulting in fear, anger, or hatred). To illustrate the distinction being made: there could be a *risk* of a terror attack despite the absence of evidence of an imminent event (a likelihood of such an event and an estimate of the potential damage it might cause could be calculated, for instance, by government security services); alternatively, there could be a publicly known *threat* of a terror attack (issued by known terrorists) resulting in negative reactions by the police and public. Risk speaks of possibilities that may be characterized by affect; threat speaks of emotionally aversive realities.

These threatening realities can be associated with perceived risks and many types of uncertainty. However, the fundamental difference being drawn here between risk and threat is about the intensity and character of the affective response engendered in individuals and communities. Threat is always associated with aversive reactions in thought, feeling and action. It can be argued that some risks are also associated with such aversive reactions. To the extent that this is true, it is hard to establish a firm and categorical difference between risk and threat. It could be said that the concepts are simply different segments of a continuum that has two parallel dimensions: probability and emotional reaction. The difference is a matter of degree. Threat is present or absent. Threat if present is always aversive.

Moreover, threat is a concept which is associated with purposive intention to harm—to disrupt, to change, to challenge, to damage. It is important to note that a threat can be imputed to be purposive by those who experience it even when it is not believed to be deliberate by those seen as its source. On occasion the purpose of an action is indisputable. A threat may be an actual physical event (for example, a terrorist may air a video pronouncing that a hostage be killed). There seems little room for doubt about the existence of the threat itself. However, there are many situations where data or events give rise to harm and are open to interpretation or reconceptualization. In these situations, where a psychological or societal reaction has occurred already, the events giving rise to them may be interpreted retrospectively as a purposeful threat. The existence of a threat subjectively may be the product of social construction processes which create a narrative that accounts for the way things have happened and the impact that they have had. When this occurs the full nature of the threat will only be identified (actually constructed) after it has had its primary effect. This echoes the SARF notion of amplification of risk.

It can be argued that threat is always a product of social construction processes, even the threat which is signaled by a physical event (like the terrorist video) will be subject to subsequent social representation (interpreted, explained, anchored in

existing belief systems and value hierarchies). So any threat needs to be analysed in the context of the way it is socially represented over time if its consequences are to be understood.

This chapter will focus in part upon the social psychological processes involved when societal agents (for example, politicians, the media, or dissidents) actively influence the way risk arises, is understood and, as a result, ensure that it becomes threat. Identity Process Theory (Breakwell, 1983, 1986, 1988, 2015a, 2015b; Jaspal & Breakwell, 2014) and Social Representations Theory (Moscovici, 1988) will be used to direct this analysis.

On the Nature of Threat and the Threat Process

It is important to acknowledge that threat is dynamic. Threat in all its incarnations is a process. It is a process with many feedback loops. In order to understand the nature of threat it is useful to consider the five elements that comprise what will be called here "the threat process": the source; the form; the target; the outcome; and, the remediation. These will be considered briefly in turn.

The source, or genesis, of the threat may be deliberate (purposive) or, in fact, accidental (unintended). Either way, the threat will be perceived to have an origin and is likely to be seen by those threatened as purposeful. In any specific case, establishing the origination of a threat is not simple. Sources can be human or not; manifest or cloaked; contemporary or historic; singular or multi-faceted and interacting (perhaps over time or space); and, as suggested earlier, they can be constructed retrospectively by those who feel threatened to explain events. From an empirical point of view, the *perceived* source of threat (irrespective of whether the perception is accurate or factual) is extremely important. It is this that is most likely to explain the impact or outcome of the threat.

This is very important when it comes to thinking about complex threats. Climate change, for instance, is talked about as a threat. It is represented as an existential challenge to many aspects of life on earth. In fact, climate change is not a single threat, it is a portmanteau description for a large number of varied processes that culminate in an identifiable environmental crisis. The actual source or origin of climate change is a matter of great debate. The origin is variously represented as a product of human action or natural processes. Depending upon what origin is supposed to be operating, the action implications for controlling the threat differ. The assumed origin even affects how the threat itself is conceived: the form it is perceived to take and the expected seriousness of its outcomes. It can result in disbelief in the very existence of the threat—at least in the ways that it is articulated by others.

Contestation of the 'true' source of a threat is common. The social psychological processes at work in these contests seem to revolve around building explanations for the emergence of a threat in such a way as to allocate blame elsewhere: to another person, another group, another period in history—anywhere than to oneself. Many social psychological theories can be deployed to explicate this process of

building the narrative of the source of a threat. Social identity theory (Tajfel, 1978) would explain the process in terms of intergroup conflict and the motive to maintain positive group differentiation. Social representations theory (Sammut et al., 2015) might explain it in terms of the anchoring of the interpretation of new challenges in the existing frameworks for explaining social relationships (and so the threat is attributed to existing alien or enemy actors. Identity Process Theory (Breakwell, 2001a, 2011, 2015b) could analyse the process as a coping strategy designed to protect the individual or group identity. There are quite a lot of social psychological models that will explain post hoc the way threats are attributed to a source. It is less clear that any of them are able to predict specifically how the source of a complex threat will be determined by all of the actors it affects. The point is that a complex threat is most likely to have many sources, interacting over time, with varying degrees of influence, and it will affect many different targets (individuals and social groups). With that degree of complexity, contestation of the 'true' source is inevitable. What is needed is an integrative model of the way the negotiations about the source occur. This model would need to use concepts from a range of social psychological theoretical frameworks. This is an important task which has not been done.

The form: Threat can take many forms. The task is to describe in detail the form that any specific threat takes—the media of its expression, the substantive content of the threat, its longevity, its specificity of target, the clarity of the content, and so on. Establishing indicators of the form of a threat that are independent of the reaction to the threat is sometimes difficult and is the crucial challenge. This is particularly true when the threat is constructed (retrospectively identified and described) through a social process after the event.

The target: Who is or are the target of the threat? Who is harmed by the threat? The target may be obvious and specific. However, sometimes the target is indistinct—the threat is broad-based, impersonal, undifferentiated or indiscriminate. Establishing the actual nature of the target is a research task in its own right. An apparent (or proximal) target may be simply a cipher for the true (distal) target. For example, the hijacking of a ship may appear to target its owner but the actual target may be more general (for instance, the viability of shipping lanes in particular waters). Targets can be nested—one inside or alongside another as the ramifications of the threat are understood and become clear. Mapping the targets of a threat and describing the network of connections that exists or develops amongst them is an important task.

The outcome: What are the reactions that are associated with the threat? Threat drives response in thought, feeling and action at an individual level but also at group or societal levels. It has already been suggested that these reactions can shape the way the threat is represented. Empirically, it should also be possible to chart a syndrome of emotional, cognitive and behavioural data and work backwards from this to suggest that a threat must have occurred. But more commonly, the relationship between the form of threat and its outcome will be dynamic—the threat evolves as the response develops. The result can be the erosion or demise of the threat (perhaps because it had achieved its purpose or because the reaction eliminates the conditions that make the threat important). In contrast, the result can also be the intensification or elaboration of the threat. These are, of course, just the two poles of a continuum of

possible interactions between form and outcome. You need only think for a moment to recall any number of terrorist or environmental activist threats that can be lodged at different points along this continuum.

The remediation: The threat process would be incomplete without consideration of what happens after the immediate threat response (the outcome). Social representational processes will be initiated to explain the threat and even to make the threat "real" where is has been implicit in terms that participants can understand and accept. However, threats lead to other forms of response, both constructive and destructive. The threatened have open to them a wide range of replies—including retaliation and self-protection. This assumes that the threatened are agentic, striving to achieve control in some way. They do not have to be. Threatened people will sometimes see no way to deal with the threat other than to surrender, to obey, to comply, to change or to self-harm. The source, form and initial outcome of the threat may prime one type of remediation over others. It is hard to know what will emerge. A good model of the threat process would explore systematically the relationship between the longer term remediation activities and the initiating conditions.

There are many case studies of threat and its consequences but there is very little empirical research that models systematically the threat process. It is possible that researchers have thought that there are many forms of threat and many situations where they occur and a vast array of potential impacts associated with them. As a result they may have thought that it is impossible to build a macro model of threat. Yet, it really should be possible. The same problems with model building were voiced when risk research first began. Now, as was described earlier, there are some useful models that will explain reactions to risk. Model building is made more viable by the increasing availability of social data on a vast scale digitally and the parallel data analytic capacity required. The advent of previously unimaginable varieties and volumes of data together with mathematical techniques for examining the connections within those data has to be the dawn of a new era. Macro-theories of social psychological processes may be tested using these methods. It should make it possible to develop a holistic theory of threat. Such a theory would need to lay out operationally each element in the threat process. The outline above is meant to represent an initial skeleton of the operational considerations.

Societal Uncertainty and the Era of Threat

How is threat created and controlled? It can be argued that manipulation of threat levels is a basic and intrinsic component of social interaction in the broadest sense. We all learn from an early age about threats. Parents threaten their children that if they are not 'good' and eat their greens, they will never grow up to be big and strong. Children threaten each other—claiming they will 'tell' on a classmate if they don't stop bullying. Lovers threaten each other with the withdrawal of their love. Threat is a tool used to control others. Threat is a currency minted regularly and in continual circulation.

All power could be said to be reliant in one way or another upon creating threat and the perception of threat. Theories of power are legion and many typologies of power have been proposed (e.g., Lukes, 1974, 2005). However, the use of threat as a tool of control is not peculiar or specific to any one type of power base. Even power that is based on expertise (e.g., superior knowledge or skill) ultimately relies upon the threat of withdrawing the sustenance which that expertise provides.

Conditions of societal uncertainty provide a fertile breeding ground for the manipulation of threat by power brokers, but also by others who have limited power bases.

Given levels of societal uncertainty in the early twenty-first century it could be said that we are living in the Era of Threat. What is an age of societal uncertainty? It is an age in which societal beliefs and values are severely challenged; changes are occurring rapidly and without clear rationale or predictability. Old narratives—ideological or religious - that previously held the societal matrix and hierarchy together are being questioned, or forgotten, or replaced indiscriminately. Political systems are in flux. Traditional political structures are dysfunctional. Disruptive technological innovations are transforming daily lives. Communication channels are multitudinous and open to novel forms of abuse and misuse. Economic inequalities get greater. Fragmentation of family structures and national allegiances grows. Migration patterns challenge governmental controls. Terrorism stalks the streets. Change is perceived as disorderly and unanticipatable. Experts and elites are distrusted. The basis of societal authority is challenged and any form of differentiation between individuals or groups is seen as unfair. Every single aspect of societal uncertainty can be construed as the source of a threat. People are now living with this societal uncertainty and with the concomitant threats. This is an Age of Societal Uncertainty and an Era of Threat.

Is the early twenty-first century any more riven with uncertainty than earlier periods? All ages have their uncertainties. All are characterised by change that was unanticipated. Perhaps one thing that does clearly make this century stand out is the extraordinarily comprehensive range of uncertainties that have emerged simultaneously. But perhaps more importantly, this century has seen the most rapid and global transformation of forms of communication that has ever happened in recorded history. The capacity to know instantaneously what is happening anywhere else in the world and to personally interact with it has not existed before. The availability of information now outstrips anything imagined before. And the access to this communication and information is not limited to a powerful elite. It is available to all. It means that when a threat emerges it can be exposed to everyone, everywhere, now.

The implications of such commonality are manifold. On the one hand, it offers the opportunity for great cohesiveness in understanding and awareness. On the other, it offers the potential for great disparities in interpretation and trust. There is little evidence at the moment that the fantastic channels of communication available now are being used to build harmony. They are, however, clearly serving to heighten the perception of threat. Danger everywhere abounds and the recipients of these data have no structured way to independently evaluate the threat posed to them, their friends and family, their community, their nation, and so on. The broader societal

uncertainty means that the structures that might have interpreted the threat in the past (e.g., religion, politicians, or academic experts) will have less automatic or privileged routes to creating a representation of a threat.

In these conditions of societal uncertainty, some individuals will look to create new understandings and thereby seek to resolve threat. They will perceive that they have threats that they should face. They seek to create what Moscovici (1988) called social representations. He used the term as part of a theory that was designed to explain how novelty and innovation comes to be understood—as other contributors to this volumes have explained. However, the processes of social representation could be equally relevant when people are faced with societal uncertainties. They are, effectively, seeking to give meaning to novel social realities, situations that they have not seen before. Moscovici described that anchoring and objectification processes come into play when a community is facing something novel or new. Both processes contextualise the novel and by doing so make it part of an intelligible set of meanings. This is a gross oversimplification of a significant theory. But it does indicate how in conditions of societal uncertainty, people may strive to use similar approaches. This suggests that the threats that create and reify societal uncertainty over time will be made manageable by processes of reconceptualization, normalisation, and identification. Sadly, this may not be a realistic suggestion if the range and complexity of the threats involved are so great that it is not possible to assimilate or accommodate their implications into existing understandings quickly enough to be viable.

The problem facing us in the Era of Threat is the number and the speed of production of the threats. There are no prior societal structures that have been agreed for interpreting such complex, interacting threats that can appear from one moment to the next. In their absence, there is a real likelihood that individuals and communities will deal with the uncertainties and the associated threats with other types of strategy. The attempt to understand or materially curtail the threat gives way to more psychological coping strategies. When this happens, some people or communities will simply refuse to acknowledge the threat. Denial as a coping mechanism is well-established by the research on coping with threatened identities (Breakwell, 2015a). However, when dealing with threats of the magnitude represented in an age of societal uncertainty, denial is at best a short-term option. This is not to ignore that denial can be maintained sometimes by large numbers of people over significant periods of time. During war or other conflicts, the realities of the horrendous treatment of some parts of a population (including genocide) sometimes will be hidden and denied by a majority and this denial can continue even long after the violence has ceased. Denial of this type does not remove the threat, it does not even explain it away. It acts to defend identities by refusing to acknowledge the very existence of the threat. Denial can rely on creating an alternative reality. Perhaps there is a parallel with climate change denial.

If there are no prior structures that have been established for interpreting threat in this age of societal uncertainty, the question then arises: how do power brokers and the powerful manipulate the representation of threat in conditions of societal uncertainty? Much of the genesis of the Era of Threat can be explained by the way the powerful actually do manipulate the representation of threat—even when there

are no previously agreed structures for doing so. The very communication channels that foster uncertainty are eminently open to being used to restructure representations of threat. Control of these communication channels can be used to erase or diminish a perceived threat. It can be used to hide or eliminate the physical basis for an immediate threat altogether. But it can also be used to heighten the visibility of a threat and to crystallise the existence of a threat. Power can defend against threat or impose threat. In fact, power can be achieved and maintained through the manipulation of threat. This is well-articulated in the classics on the art of war (Sun Tzu, c.403–221 BC; Clausewitz, 1832).

The problem that power has in this age of societal uncertainty is how to gain control of the channels of communication. Because there are so many channels, because they are so immediate, and because they take messages from all-comers, they are notoriously difficult to command. Some of the great debates now raging focus upon the capacity to curtail the use of these media and the ethics of their use.

The absence of absolute control of communications channels will not prevent power from exerting significant pressure on the processes of representing threat. Threat is interesting because it relies upon anticipation of what might be, what might happen. In this sense it is prospective and reliant upon an ability to think about the future. It is founded upon the assertion that some undesirable outcome will occur, but not the absolute assurance of that outcome. The threat itself is certain—of that there is no doubt. Though even the certainty of the existence of the threat may be questioned (for instance, did the terrorist actually post the threat to kill the hostage on the web?). In addition, the threat of a threat is a threat in its own right. Power is sometimes expressed through creating the threat of a threat. Sometimes, in order to curtail a threat, it will expose the threat, making the threat evident, and in doing so show how it will be contained.

Much of the work on terrorism is based on this—what might be called—*meta-threat*. Anti-terrorism forces are continually estimating the reality of the extant threats. In doing this work, they inevitably enter and become part of the process of constructing the threat. On New Year's Eve 2016 in the UK, the newspapers carried headlines that day of the precautions that were being taken on the London Underground and elsewhere to protect against terrorist attacks. The Telegraph newspaper reported: "New Year security Armed police on Underground—Armed transport police will patrol the London Underground and a ring of concrete barriers will be thrown around the city centre for New Year's Eve celebrations following terrorist lorry attacks on the Continent. The number of officers will be higher than the 2000 on duty last year. In total, 3800 police will be on duty in central London." These reports—designed, one can suppose, to reassure the public—in fact, specified the threat. Effectively, they made evident the threat of a threat tied to a particular place at a specific time. This is not to suggest that the overarching threat of terrorism was not real—the process of communicating that threat, 'constructing' it, here is what is being identified. It is interesting that the description of the measures being taken to deal with a potential threat is a vehicle for a second level threat. But it is also a clear message that protection is being put in place against the base threat. This

exposition of the threat has two audiences (at least): the public at large (who are to be reassured) and the perpetrators (who are to be scared off).

Once a threat is articulated by a powerful source controlling where it evolves and how it interacts with other threats is a complex matter. Controlling the impact of threat is, of course, quite different from analysing the manner in which the impact of threat develops. It is the eventual possibility that any threat will achieve execution that introduces an additional uncertainty. That uncertainty has the capacity to motivate response over and above the way that the threat itself motivates a response (indeed, the way the threat of the threat motivates response). This analysis should be a major preoccupation for empirical social psychologists: tracing the way threat penetrates a social system—particularly in the context of the age of societal uncertainty.

The Significance of Identity Processes and Social Representations in the Era of Threat

Throughout this chapter there have been references to the way identity and social representation processes influence the manner in which people cope with threat. For some phenomenon to be a treated as a threat, it must be believed to be significant and have negative impact. In effect, it must challenge the physical or psychological well-being of the person or the larger social unit (and it can do this directly or indirectly). It has an effect on the individual (and societally by the same token) by merely being articulated. The danger does not need to materialise—the threat of danger has immediate consequences not only for the threatened but also for the entire social system around the threatened.

A threat could be said to have no personal relevance unless it challenges the well-being of the person in some way. Well-being is a rather broad notion. However, it certainly includes the maintenance of certain key principles of identity processes—self-esteem, self-efficacy, continuity, and distinctiveness as articulated in Identity Process Theory (Breakwell, 2015a; Jaspal & Breakwell, 2014). IPT seeks to explain how individuals and groups react when faced with threats to identity. It describes many of the coping strategies that are used in response to threat—at both the psychological and societal levels. IPT has been linked closely with Social Representations Theory in recent years. SRT conceptualises the processes that shape social meaning and create, as a consequence, new social constructs (Sammut et al., 2015). Consequently, SRT has a very significant role to play in allowing us to understand the dynamics of threat. But it cannot do the entire analysis alone, it needs to be used with IPT to make it possible to understand how social representations work to influence the social behaviour of individuals, alone and interpersonally. Together IPT and SRT can explain the social psychological processes that underlie how threat is created and controlled and the effects that it has. Together, they can describe the social psychological processes involved when powerful societal agents (such as politicians,

the media, or dissidents) actively influence the way a hazard is understood and, as a result, ensure that it becomes a threat or, the obverse, ensure that it does not become a threat.

The threat process is dynamic with many feedback loops. Both IPT and SRT are designed to analyse dynamic processes. It was argued earlier that it is useful to think in terms of analysing threat in terms of five elements: source, form, target, outcome and remediation. IPT and SRT could systematise how these elements could be analysed. SRT might be particularly useful in analysing the form and target of threat. IPT might be of some value in analysing the outcome and remediation of threat. Together, they may articulate the dynamics between the five elements. I am not suggesting they are the only theories that would be valuable. The SARF described earlier might clearly be of use. However, it may not so valuable to use micro-models from social psychology to analyse threat. It is necessary to employ theories that are wide in scope and can handle the analysis of dynamic systems at both the individual and societal level. This may be particularly relevant in the Era of Threat. Models that rely on data which is severely limited in temporal, spatial or social sampling scope will have difficulty in making sense of the profound interactions between types of threat and types of reactions that now characterise this age of societal uncertainty. Simplification and control driven by the experimental method may not yield the sort of insights needed to address these complex social processes. Data analytics inevitably will be able to enhance traditional approaches.

Identity of the Individual in an Age of Societal Uncertainty

So far this chapter has not focussed on the individual response to the sort of threat nexus (the networked bundle of threats) that characterise societal uncertainty. From an Identity Process Theory (Breakwell, 1986, 2015a) perspective, this sort of threat nexus represents the ultimate challenge for identity processes. In IPT the structure of identity is said to be described along two planes: the content dimension and the value dimension. The content dimension of identity is organised. The organisation can be characterised in terms of (i) the degree of centrality, (ii) the hierarchical arrangements of elements and (iii) the relative salience of components. Quite probably it has other organising features as yet unspecified (for instance, looseness). The organisation is not, however, static and is responsive to changes in inputs and demands from the social context besides purposive reconstruction initiated by the individual. Each element in the content dimension is argued to have a positive or negative value/affect appended to it; taken together these values constitute the value/affective dimension of identity. The value/affective dimension of identity is constantly subject to revision: the value of each element is open to reappraisal as a consequence of changes in social value systems and modifications in the individual's position in relation to such social value systems.

In IPT, the structure of identity is postulated to be regulated by the dynamic processes of accommodation/-assimilation and evaluation which are deemed to be

universal psychological processes. Assimilation and accommodation are two components of one process. Assimilation refers to the absorption of new components into the identity structure; accommodation refers to the adjustment which occurs in the existing structure in order to find a place for new elements. The process of evaluation entails the allocation of meaning and value/affect to identity contents, new and old. The two processes interact to determine the changing content and value of identity over time; with changing patterns of assimilation requiring changes in evaluation and vice versa.

These two identity processes are guided in their operation by principles which define desirable states for the structure of identity. While the actual states considered desirable, and consequently the guidance principles, are probably temporally and culturally specific, the original formulation of IPT claimed that in Western post-industrial cultures the four prime guidance principles were desire for continuity, distinctiveness, efficacy and self-esteem. These four principles were said to vary in their relative and absolute salience over time and across situations. More recently, other researchers have added other 'principles' and some prefer to call these 'motives'—whatever the label, they are said to serve the same directive function—identifying a desired state for identity.

In fact, IPT goes on from describing a number of principles to talking about the routes whereby they come into existence. It describes the societal processes within which the identity processes are evolved (Breakwell, 2001a). IPT is not only describing intra-psychic processes in talking about identity processes, it is attempting to explain their relationship with processes at other levels of analysis. This is one of the ways in which SRT becomes important for IPT (Breakwell, 1990, 1993, 2001a, 2015a, 2015b). Social representations and the social influence processes that embody them certainly shape what identity principles are at work—specifically when considered across long time periods.

This is where the issue of societal uncertainty of the magnitude described so far becomes a major problem for identity dynamics. The uncertainties create identity threats. However, those uncertainties also question the validity of prior value systems, previous beliefs, and previous meanings of data. In fact, societal uncertainty can undermine the basis for the very principles that would previously have directed the identity processes of evaluation and assimilation/accommodation. Echoes of Durkheim's (1893, 1897) notion of anomie (where there is the absence of the controlling power of social rules during a period of social change) can be heard. Individuals who are aware of the threat nexus may actually be unsure of the way to cope with the threat because the societal uncertainties are eroding or have emaciated the old identity principles that directed coping strategy choice and implementation but have not yet supplanted them with new ones.

From the perspective of the individual, what might this mean? It is a conundrum. If some societal change challenges the distinctiveness of your identity but simultaneously asserts that distinctiveness is unimportant. Do you experience threat? This question needs an empirical answer. However, perhaps your reaction would depend on how quickly social representation processes actually undermine the significance of distinctiveness. If the uncertainty persists—the distinctiveness principle may well

drive coping strategies in the effort to repair distinctiveness for the individual. The question will probably then become what constitutes positive distinctiveness in this new context of doubt.

Societal uncertainty may not impact on all elements of an individual identity, or on all simultaneously. But it is realistic to assume that in an age of societal uncertainty many elements in any one identity will be threatened over time. The impact of serial and sequential identity threat in such a context where the social rules and values that mould identity principles are in flux is hard to conceptualise. Identity processes are dynamic, working always to construct identity during change. Yet, the question is: is there a point at which coping ceases and, if so, at what point does coping cease? At what rate of social change and at what level of societal uncertainty will the habitual identity processes fail to operate?

It would not take an enormous leap of imagination to think that perhaps in such uncertainty and change identity processes will start to behave differently. It however hard to see how they would. Possibly assimilation and accommodation of new elements could be paused (but actually the rejection of new material has always been regarded as a possible coping strategy). Actually, it is more likely that identity processes will not behave differently but their outcomes will be different. One obvious possibility is that identity processes will produce identity content and structure that is itself unstable, in a constant state of modification, reacting to the next shift in the matrix of societal uncertainties and the threat they create. Some identities will possibly be more susceptible to this response to societal uncertainty. The implications for psychological well-being and for social action of what might be regarded as identity insecurity—even over relatively short periods (let alone longer timescales)—are undoubtedly significant.

According to the original formulation of IPT a threat exists when the identity processes (assimilation-accommodation and evaluation) are not able to operate in accordance with the identity principles to construct and maintain identity. For a threat to evoke action, it must gain access to consciousness. It is therefore possible to distinguish between occupying a threatening position and experiencing threat. For some members of a community, societal uncertainties will not become an identity threat because they do not enter consciousness or they enter consciousness in a form which has already reinterpreted them as unthreatening. It should be noted that this does not mean that the societal uncertainties therefore do not result in identity change—they will, even if only to a very minor extent—but there will be no subjective experience of threat.

In Conclusion

Understanding this complex relationship between societal uncertainty, threat and the dynamics of identity processes is clearly of fundamental importance. Using SRT and IPT in an integrated way offers a route to formalising a number of questions that are open to empirical investigation.

To summarise this chapter's argument: we are living in an Age of Societal Uncertainty and an Era of Threat; an Age in which societal beliefs and values are severely challenged; changes are occurring rapidly and without any agreed rationale or predictability—to a greater extent than in any previous time. Every single aspect of societal uncertainty can be construed as the source of a threat to identity. In these conditions of societal uncertainty, some individuals will look to create new understandings and to resolve threat. The processes of social representation that respond to social change will operate: processes of reconceptualization, normalisation, and identification. In the Era of Threat, the problem is the number and the speed of production of the threats. There are no prior societal structures that have been agreed for interpreting such complex, interacting threats that can appear from one moment to the next. Threat is dynamic and in all its incarnations is a process with many feedback loops. To understand the nature of threat it is useful to consider the five elements that comprise what will be called here "the threat process": the source (which may be contested or fabricated), the form, the target (s), the outcome, and the remediation. How is threat created and controlled? It can be argued that manipulation of threat levels is a basic and intrinsic component of social interaction. Threat is a tool used to control others. All power is reliant in some way upon creating threat. Conditions of societal uncertainty provide a fertile breeding ground for the manipulation of threat by power brokers, but also by others who have limited power bases. Much of the genesis of the Era of Threat can be explained by the way the powerful actually do manipulate the representation of threat—even when there are no previously agreed structures for doing so. For some phenomenon to be a treated as a threat, it must be believed to be significant and have negative impact. In effect, it must challenge the physical or psychological well-being of the person or the larger social unit. Both IPT and SRT are designed to analyse dynamic processes, like the threat process. In IPT, the structure of identity is postulated to be regulated by the dynamic processes of accommodation/-assimilation and evaluation which are deemed to be universal psychological processes and are guided in their operation by principles which define desirable states for the structure of identity. Great and prolonged societal uncertainty jeopardises the capacity of the identity processes to cope with threats emerging through uncertainty. This occurs because societal uncertainty can undermine the basis for the very principles that would previously have directed the identity processes of evaluation and assimilation/accommodation.

Societal uncertainty may not impact on all elements of an individual identity, or on all simultaneously. But it is realistic to assume that in an age of societal uncertainty many elements in any one identity will be threatened over time. Identity processes are dynamic, working to construct identity even during change. Yet, the question is: is there a point at which coping ceases and, if so, at what point does coping cease? At what rate of social change and at what level of societal uncertainty will the habitual identity processes fail to operate? The implications for psychological well-being and for social action of what might be regarded as identity insecurity—even over relatively short periods (let alone longer timescales)—are undoubtedly significant. My own view is that coping strategies are enormously resilient. Both

their cognitive processing capacity and social representational creativity should not be underestimated. So identity insecurity is not equivalent to identity loss.

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Part II
Building Threats: Cultures, Groups, and Identities

Chapter 7
From the "Classic" Terrorism of the 1970s to Contemporary "Global" Terrorism

Michel Wieviorka

Terrorism was long considered a rather marginal area of research in the humanities and social sciences and perhaps not quite appropriate for study, being less noble and prestigious than others. Apparently, the subject did not conform to the canons of academic life and the disciplines in this vast domain. As from the 1960s, what was known about it was mainly developed by experts associated with intelligence services.

Terrorism might well have been a serious problem, but it was part of a political rationale which could be understood, such as nationalism, independence struggles or Marxism-Leninism for example. It was not so much a threat, as a social and political issue involving order, the State and the social fabric. Rather than being a cause for concern, with undertones of hostility, a virtuality that had to be guarded against, it was a practice of political violence causing material damage. The phenomenon, however, underwent a transformation, which raised widespread concerns, potentially affecting unlikely or unforeseeable places in a thousand and one ways. In France, for example, these ranged from a poorly attended church in the suburbs of Rouen to the Promenade des Anglais in Nice. Furthermore, the phenomenon was expressed by individuals and groups with no advance warning of whether they would come from within the society or from without, in an organised fashion or the act of 'lone wolf' operators. The threat of terrorism is ever present and now haunts our countries.

It is true that it is difficult to propose a concept of terrorism. In the first instance, the term belongs to the vocabulary of the media and everyday life. Above all, if it has taken time for research in the humanities and social sciences to develop on this theme, it is primarily because the phenomenon itself appeared to be an epi-phenomenon, one element in much wider-ranging questions and, ultimately, a minor aspect in

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relation to the major events in the history of our times. For example, how important is an analysis of those responsible for the terrorist attack in Sarajevo, in which the Archduke Franz Ferdinand was assassinated on 28th June 1914, an event which led to World War One, alongside an understanding of Clark's (2013) reconstitution of the complex interplay and plurality of the multilateral interactions culminating in this war? Closer to us, the Palestinian terrorism at the end of the 1960s and up until the 1980s was of real relevance, true, but it has to be considered in terms of a wider setting of which it was only one aspect. We have to bear in mind, for example, its changing links with the Palestinian movement and its conflict with Israel, or with the hidden politics and diplomacy of certain "sponsor" States (in particular, Libya, Syria and Iraq); or see it in the context of the Cold War.

If research on terrorism is now necessary in the humanities and social sciences this is initially because it seems to constitute a problem in its own right and, therefore, to belong to categories which do not encapsulate it in broader questions, or not necessarily. This observation is linked to the fact that the main workings of present day terrorism are associated with certain currents in Islam. Radical Islamism, when it assumes a terrorist nature, is a phenomenon to which religious dimensions are central. These religious dimensions may be integral to political or geopolitical aims beyond its control or they may be instrumentalised. Nonetheless, it is also, and primarily, a phenomenon *sui generis*, a threat and a reality that have imposed themselves in their own right; and with a planet-wide, global intensity fully justifying a considerable number of researchers devoting their time thereto.

This does not, in any way, mean that radical Islamism has the monopoly of terrorist violence. When religious, violence may equally well be Buddhist, Jewish or Christian; but it is not only religious and may, for example, come from the extreme right.

These introductory remarks invite us to make a clear distinction between two phases of terrorism in recent years from, let's say, the beginning of the 1960s. The first will be described here as 'classical'. It did not mobilise a great deal of research. The second period, which dates from the beginning of the 1980s, was very different; we shall refer to it as 'global'.

'Classical' Terrorism

Brief Historical Review

Seen from Europe, terrorism in the 1960s and 1970s was structured around two main issues.

On one hand, it was international and then, in the main, focussed on the issue of Palestine. The perpetrators of the most important attacks were, in most cases, dissident groups from the PLO whose aim was to undermine any policy that appeared to be likely to culminate in negotiations with Israel. The others were heteronomous

and, in fact, acted on behalf of the sponsor States who entrusted them with their 'dirty work' in return for means of existence including money, passports, and a safe fallback base. There were occasions when Fath, the most central organisation of Yasser Arafat's PLO, was involved in the organisation of an attack. This was the case with the massacre in Munich (5th–6th September 1972), when 11 Israeli athletes and a German policeman were killed by a Palestinian commando group during the Olympic Games. At the time, international terrorism, in the shape of ASALA (the Secret Army for the Liberation of Armenia), an organisation claiming to act on behalf of the Armenian cause, was responsible for the attack at Orly on 15th July 1983, in which 8 people died and some sixty were injured. This operation backfired and became a total disaster for the ASALA, as Armenian communities throughout the world distanced themselves from the terrorism which, in their name, had struck people whose only wrong was to have happened to be in Orly on that day.

There was also internal, 'home-grown' terrorism associated with internal issues specific to the countries in which it occurred. It could be from the extreme-right with fascist tendencies, aimed at creating a climate of fear conducive to a coup d'Etat. This was the case with the 'strategy of tension' in Italy, which culminated in the attack at the station in Bologna (85 dead, over 200 wounded) on 2nd August 1980. It could also be from the extreme-left, borne along by organisations originating in the rise and fall of Leftism after the loss of the hopes raised by May '68. There was a powerful wave, once again in Italy, dominated by the Red Brigades but also, in a more restricted manner, by the Red Army Faction in Germany.

Finally, this 'internal' terrorism could be associated with a national cause, with demands for territorial independence, for example the ETA movement in the Basque country in Spain; the IRA in Northern Ireland; or in France with the FNLC (Front National de Liberation de la Corse) in Corsica. In certain cases, or at certain points in their history, these armed struggle movements may have associated a social theme and an extreme-left ideology, in particular Leninist, with what was the central theme, the reference to a nation which had to be liberated.

In all cases, this terrorism was political; even if there were instances when it was also, or occasionally, somewhat sordid or recalled the Mafia.

Conceptualization

As we have pointed out, this 'classical' terrorism is a common sense category. The question is, can it be conceptualised? At first sight, this would seem to be an intractable issue, quite simply because we are repeatedly reminded that one person's terrorist is another person's resistant or freedom fighter. However, it is possible to propose a tentative conceptualisation on the basis of a two-fold observation.

In the first instance, the terrorist actors were capable of calculation and strategic development. They knew how to prepare an operation, mobilise the resources required, including arms, money, hiding places, etc., obtain information, arrange

their escape after an attack, disguise themselves, etc. They were, in short, rational and their actions presented instrumental dimensions that included a costs and benefits analysis.

Secondly, they were violent, capable of killing indiscriminately, blindly, if it was a question of their targets; all the more so, since they had lost contact with the populations they claimed to represent, in particular a nation or a class. The more they acted, in the last resort without reference to any other group than their own, the more the population they claimed to represent shifted away from their actions and the more those actions gained a momentum whose image suggested loss of direction. As I wrote at the time, they became the anti-movement of the movement they endeavoured to represent (Wieviorka, 1988). Nobody could ultimately understand and evaluate their acts, which had become meaningless and could be described as drifting aimlessly.

'Classical' terrorism pursued these processes to their ultimate limit on many occasions at the time. They eventually ended in self-destruction, the settling of internal differences, denunciation, incomprehensible tirades, and actions targeting the population which it was intended to defend. The process sometimes lasted a long time, as with ETA or the IRA, both of which succeeded in maintaining a degree of public empathy even when they resorted to terrorism. Nationalism is a rather more robust ideology than Marxism-Leninism. It was more rapid with extreme-left organisations. While I in no way wish to minimise the merits of the General of the Italian Carabinieri, Carlo Alberto dalla Chiesa, often presented as the person who put an end to the *Brigate Rosse*, I must stress that the actions of the movement had already declined considerably in meaning, and any link with the Italian proletariat was tenuous. Their actions had no connection to the lives of those they aimed to represent. From this perspective, 'pure' terrorism is terrorism that no longer has any relation at all to the population of reference.

If we combine these two observations, it is possible to define terrorism as an instrumental, rational action, close to a 'pure' concept, particularly when the actors speak in the name of a population which in no way recognises its demands, or no longer does so, in these acts of violence. The concept of anti-movement, as I have already said, can account for the action, and also for the inversion of the process, whereby the actors go from the movement, to the anti-movement, from meaning to loss of meaning. This is what I suggested as conceptualisation at the conclusion of my work in the 1980s (Wieviorka, 1988).

Global Terrorism

The Origin of Jihadism

The first important events marking a change in the terrorist phenomenon date from the beginning of the 1980s and took place in Lebanon. In Beirut, on the 23rd October 1983, an attack involving a bomb-laden lorry caused the death of more than 250

people (of which 248 were soldiers) at the headquarters of the American Marines near the airport and, on the same day, a second attack, which may also have been caused by a truck bomb, but this is not certain, caused over 60 deaths (including 58 French paratroopers) in the Drakkar building. In both cases, the most plausible hypotheses involve two actors: Iran, a revolutionary state at war, and the Lebanese Hezbollah, a rapidly-evolving Shi'a political force, who both denied any participation. In both cases, it would appear that the attack involved martyrdom: the truck drivers gave their lives to ensure the success of their actions. This is an example of the suicidal approach adopted by the tens of thousands of young Bassiji, who requested to fight in the front line during the war between Iran and Iraq (1980–1988). Such was their desperation at the idea that the Khomeini revolution might fail, they were ready to meet an almost certain death.

Thereafter, other terrorist attacks confirmed that a new phase had opened up in the history of the phenomenon. In France alone, there were 13 attacks in 1985–1986. These included the rue de Rennes in Paris, 13th September 1986, (7 dead, 55 injured) and for the majority, the most plausible hypotheses pointed to Hezbollah, perhaps to obtain the liberation of those held in prison in France and in Iran. What is clear is that the religious dimension, that of Islam, cannot be ignored.

In the 1990s, the conjunction of a militarised Islam and the occult and violent para-diplomacy of certain countries, Iran in particular, was becoming increasingly frequent.

At the same time, and as from the end of the 1980s, people started to talk about al-Qaeda, the organisation headed by Osama bin Laden, whose orientations are of a quite different nature. The Afghanistan of the Taliban became a major training ground for Jihadists from all over the world. Radical Islam was to constitute the core of a form of global and religious terrorism, whose first target was the United States (attacks aimed at American Embassies in Nairobi and Daar-es-Salam in 1998, the destroyer USS Cole in October 2000, etc.).

A particularly important episode occurred in France. It was significant because it indicated what Jihadi terrorism was to become later in many instances: namely the synthesis, depending on the circumstances, of worldwide or international rationales and rationales internal to a society. In 1995, the assassination of the Sahraoui imam in Paris, the attacks in the RER B (underground urban transport system) at the Saint Michel Station in Paris (8 dead and 117 wounded), at the Place Charles-de-Gaulle (16 wounded); as well as several failed attacks, indicated that France had become the stage on which tensions specific to the Arab-Muslim world—in this instance in Algeria—were being acted out. Some of the participant networks and actors were of immigrant origin, resident in France. The primary perpetrator of the attacks was Khaled Kelkal, killed by the police (*gendarmes)* on 29th September 1995, and whose itinerary was to become emblematic. He was born in Mostaganem and grew up in the suburbs in Lyon, where he was known as a petty delinquent from an early age. He then became radicalised, served a prison sentence, and then spent time in Algeria on several occasions. There he was in contact with the 'Afghans', the militant Algerian Islamists who had been trained and formed in Afghanistan. He himself became an ardent Islamic activist. Terrorism, in his case, was at the crossroads of French issues

concerning the 'suburbs' and integration on one hand, and issues from elsewhere, including violence in Algeria and the constitution of Islamic networks at world level.

Four Types of Jihadism

The Global Climax

A peak was reached with the 9/11 attacks on 9th September 2001, at the World Trade Center in New York, and in Washington (nearly 3000 dead and twice as many wounded). The coordinated and simultaneous hijacking of four aeroplanes had been prepared and implemented by actors under the leadership of Osama Bin Laden. They came from another country, had little knowledge of the United States and were driven by a visceral hatred of the West, as well as by virulent anti-Semitism, which is a constant factor in Jihadism, established at an early date by Sageman (2004). The action was metapolitical, not intending to take State power. The aim was martyrdom: all those who intended to hijack a plane had decided to commit suicide. This had nothing to do with discussions and tensions internal to the United States, with the work of the United States in itself. What happened was only possible because of the existence of al-Qaeda, its bases in Afghanistan, accepted by the Taliban, its financial capacity and its pyramidal organisation. From this point on, Islamic terrorism was to follow several paths.

At the Crossroads of Issues Within a Society and Issues External to It

With the first path, the attacks are the outcome of the synthesis of two types of rationale: those which are external in origin and those internal to the society and are expressed by actors who are themselves, like Khaled Kelkal, at the crossroads of these rationales. Jihadism is heavily loaded with resentment towards certain States, mainly Western but not uniquely, with the desire to harm them; but it is also the bearer of geo-political issues and political interests which are located elsewhere. The perpetrators of attacks may be associated with distant organisations, while living in the country where the damage is to occur. Thus, on 11th March 2004, several bombs exploded simultaneously on trains arriving in Madrid, causing 191 deaths and almost 2000 wounded. Similarly, on 7th July 2005, three explosions on the London Underground and in a bus resulted in 56 deaths and some 700 wounded. In both cases, the attacks were the work of networks. Several members were resident in the country thus ravaged and the demands made suggest that what is at stake is the international policies of these countries, involved in a war in Iraq alongside the United States of George W. Bush. We were to learn later that, at least in the case of Spain, preparation for the attacks had begun before the outbreak of this war. Those involved in the country were of immigrant origin. All over the world, other attacks of the same type show that it was not only Western countries that were targeted: November 2003 saw,

in Istanbul, synagogues, the British Consulate and the HSBC bank targeted—58 people died. Other attacks followed: in March 2007 in Casablanca, and Marrakech on 28th April 2011; in Bali, to merely give a few examples. In a first wave, these attacks seemed to have been sponsored by al-Qaeda. This was still the case in January 2015, when an attack in Paris on 7th January targeted the journalists of the satirical magazine, *Charlie Hebdo*, which had published highly controversial caricatures of the Prophet Mohamed. Twelve people died and 11 were wounded. In another attack on 9th January, at the *hyperkasher* supermarket at the Porte de Vincennes, 4 people died. These attacks on selected targets were therefore aimed at the media on one hand and Jewish people on the other.

Daech and the Caliphate

More recently, a so-called State, Daech, has been set up in Iraq and Syria, which describes itself as a 'Caliphate' and which functions in terrorist mode. Once again, in the attacks in numerous countries for which it claims responsibility, we find the interplay of internal rationales. These are specific to each country targeted, usually, but not exclusively, expressed by people of Arab-Muslim immigrant origin and military-type rationales, in particular toward the countries participating in the coalition which opposes this so-called State. An innovation here is that Daech has attracted thousands of young people, who have come there not only to be trained, to practice and to be educated but also to live in a Muslim country, even if it means being prepared to return to their country of origin to carry out attacks. These young people include an appreciable percentage of converts to Islam and women. The word used to describe this process is 'radicalisation' and, on occasion, they have been compared to the International Brigades who went to join the Republicans in Spain in the civil war against Franco.

The Jihadi attacks as from 2014 or 2015 were frequently committed by Daech and differed from those of al-Qaeda in their specifically political and geo-political dimension. In these cases, religion was associated with a project for the construction and defence of a State.

Already in the context still dominated by al-Qaeda, Marc Sageman advanced the hypothesis that this type of action was "leader less" Jihadism and, therefore, was actors organising themselves without having to refer to any centre whatsoever and knowing full well what was expected of them. This thesis gave rise to considerable public debate, in which Sageman was criticised by another expert, Bruce Hoffman. He rejected the idea of 'homegrown terrorists' who had become radicalised all on their own and whose *modus operandi* was almost entirely owed to the Internet.[1]

[1] The book by Marc Sageman which led to the controversy is Leaderless Jihad, Terror Networks in the -First Century (https://www.cairn.info/revue-politique-etrangere-2008-4-page-912.htm#s1n2). Philadelphia, University of Pennsylvania Press, 2008. Bruce Hoffman's reply was published under the title, "The Myth of Grass-Roots Terrorism; Why Osama bin Laden Still Matters" (Hoffman, 2008).

Lone Wolves? Pathological Characteristics?

Several attacks, for example in Boston (at the city's marathon on 15th April 2013) or, in France in Toulouse (Mohamed Merah killing three soldiers, then three children and a Jewish teacher in March 2012), then in Nice (14th July 2016), when a truck driven into the crowd killed 86 people and wounded almost 500 people on the Promenade des Anglais) were, at the time, presented as the work of 'lone wolves', isolated individuals (two brothers in the case of Boston). People who did not have the slightest link to an organisation like Daech—which is even more in line with the 'leaderless Jihad' hypothesis. In fact, experience shows that as the inquiry gradually advances, and then the judicial processing of the files, this presentation does not stand up to scrutiny in most instances. Anders Behring Breivik, this extreme right terrorist who killed 77 people in Norway on 22nd July 2012, was also described as a 'lone wolf'. With time, however, this statement was also qualified.

In fact, until recently, completely isolated Jihadis were rare. But today, Internet provides all the information required to commit a terrorist attack, and it is possible to take action single-handed. There are people who really do act entirely on their own. Proportionately there are more, particularly as the police information and prevention services are now more developed. It is now easier to locate action organised by several people than the lone maturation of a terrorist project. Confronted with increasingly efficient repression, collective actors have difficulty in organising and acting but, on the other hand, determined, isolated individuals have more facility. Actors of this sort are, however, also increasingly frequently unbalanced people, whose involvement falls under psychiatry rather than politics or religion.

On the whole, the social sciences are reluctant to accept any attempt to naturalise social problems, to criminalise political action or to treat political commitment as a psychiatric problem. But how can we avoid thinking that many of the most recent cases are indeed functions of this type of orientation?

We can therefore distinguish at least four types of Jihadism. These range from the most global, metapolitical, martyr, with no roots in the society targeted by their attacks; to the most individual, in varying degrees of isolation, for whom religion seems to be subsequent to some form of mental imbalance. Others combine internal social and cultural sources, and religious and geopolitical rationales with the variant constituted by association with a so-called State, like the Caliphate of Daech. Let us once again make it clear that there are other forms of terrorism, which may, or may not, be religious.

This terrorism is 'global' and not only international, in so far as, to be understood, it has to be grasped in its global meanings, which are themselves then articulated with all sorts of regional, national or local issues. The actors, even the most modest, acting in their own country, even at local level, assign a general, global, metapolitical meaning to their gestures. To use the words of Ulrich Beck, they correspond to the "cosmopolitisation of the world", which lists the terrorist threat amongst the major risks, just like global warming or the dangers of nuclear war (Beck, 2017).

A New Conceptualisation

This leads us to new theoretical approaches and new discussions. On the whole, the analyses of 'classical' terrorism were not renowned for the quality of their theorization. If the issue was one of extreme-left terrorism or Palestinian terrorism, the analysis was restricted to endeavouring to show the existence of a common 'left-wing' theme linking many of the most outstanding experiences to centres in the Soviet Union. More frequently, the accumulation of empirical knowledge and the historical narrative replaced conceptualisation-hence the importance of "experts", in most instances linked to state institutions, *think tanks* close to those in power, possibly even to Intelligence Services. Both Bruce Hoffman and Marc Sageman, whom we have just quoted, started their careers at the end of the 'classical period' of terrorism: Hoffman in the Rand Corporation and Sageman in the CIA.

As mentioned above, I proposed articulating the instrumental register with that of loss of meaning. I was, at the time, part of the endeavour to combine, rather than oppose, a sociology along the lines of the resource mobilisation theory associated with Charles Tilly with one prolonging that of action and social movements, as developed by Alain Touraine (e.g., Tilly, 1978; Touraine, 1978).On these two registers, however, 'global terrorism' forces us to go much further.

The approaches insisting on the instrumental dimensions of terrorism lead to an image of rational actors, making calculations, working out strategies and weighing up the costs and benefits of an action in preparation. It is true that today, as in the past, terrorists are often good strategists, capable of inventing clever scenarios, and imagining new modes of action. They have not all decided to die along with their victims. But many firmly decide to do so. In these instances, their motives are varied: some hope to go to a paradise where dozens of virgins await them; others have abandoned hope and feel trapped; others yet have faith in someone who takes command, or in a religious leader, etc. Nevertheless, in all these cases, one question remains: what can the cost-benefit analysis of a suicide operation possibly be?

The question of *the loss of meaning* is also more complicated. At global level, the terrorists do have numerous supporters and a real audience. It is not possible to speak of 'pure' terrorism, in which nobody identifies with the rhetoric of the actors. On the contrary, their communication is often carefully prepared with the aim of frightening enemies but also of arousing sympathy and generating recruitment.

This is why research in the social sciences has produced questions and proposals that maintain a close link with the issue of loss of meaning.

Research on terrorism is now part of the general evolution of the social sciences which, in the main, have now exited the structuralism of the 1960s, 70s and 80s and assigned an increasing importance to approaches focusing on the subjectivity of the actors. Thus ground-breaking work, like that of Khosrokhavar (2018) deals with the terrorist subject and, more specifically, to avoid any essentialism, the processes of subjectivation and de-subjectivation which shape their trajectory. The terrorist actor is the person who, at one and the same time, is involved in the processes of loss of

meaning, which can be referred to as de-subjectivation and the restoration of meaning, by means of religion, which can be referred to as subjectivation or re-subjectivation.

As religion constitutes the principal resource of subjectivation, questions have arisen as to its exact role and place. In this respect, a controversy involving both personal issues and fundamental questions set two excellent political scientists, Gilles Kepel and Olivier Roy, in opposition. They disagreed as to whether in Jihadism, as it emerged in the West, the predominant question was one of religion or a social nature: the consequences of the *banlieues* or declining urban areas, or the difficulties of immigration (Daumas, 2016). Farhad Khosrokhavar intervened to point out that, in Europe, there was not one single version of the truth but a broad range of experiences (Khosrokhavar, 2018): some terrorists had had a Muslim upbringing, with a long practice of going to the mosque; others had discovered religion a few months previously, even a few weeks before taking action and, on the whole, their knowledge of the sacred texts was very limited. The fact remains that it is difficult to conceive of taking action as a martyr and committing suicide, without religion, even if this is only a very recent discovery on the part of the Jihadi and if, in most cases, they are not very knowledgeable about Islam.

The greater the interest in subjectivation and de-subjectivation, the greater the temptation to reduce these to the central theme that has come to dominate recently, and which is that of radicalisation. Seen from this perspective, Islamic terrorism is the outcome of a process during which an individual becomes 'radicalized', by which is meant that they both adopt an extremist ideology and prepare to implement it violently. The concept of radicalisation now prevails in the discourse of journalists and experts. At the same time, endeavours are taking place to consider its contrary, 'deradicalisation' and to develop appropriate public policies on this basis. This presents the advantage of enabling a sociological type of analysis by inviting us to consider trajectories, submission to ordeals and actors' work on meaning.

However, the concept also has its limits and, in particular, a blind spot: it tells us nothing about the decision to take action, given that only a very restricted number of individuals will effectively act violently within a large population sharing the same values, the same hopes, the same despair, but who will remain passive. The *sociologising* explaining terrorism by social causes, with no consideration for the individual subjectivity of the actors; and the *psychologising* reducing the actor to questions of personality, constitute two pitfalls which the analyst has to avoid.

Today, Islamic terrorism is the subject of major research programmes[2] mobilising large numbers of researchers. This affords a privileged opportunity to consider the articulation of research, and public action, taking care to avoid any merging of the two roles. A researcher is a researcher, while a top civil servant, a judge or a politician is not. The production of terrorism, but also its impact, has become a significant domain in the humanities and social sciences; and the study of the actors, institutions or even of the State in their endeavours to confront these issues is becoming a new field in these areas (Wieviorka, 2018).

[2] We would like to flag the work undertaken in the context of the platform 'Violence et sortie de la violence' at the FMSH, which includes the *Observatoire des radicalisations*.

The move from 'classical' terrorism to 'global terrorism' is also an opportunity for new and wider-ranging efforts to consider the phenomenon, in all its dimensions. This phenomenon is now experienced as a threat from without and from within our societies. It may occur at any time, possibly operated from a great distance, in an organised form, or simply carried out almost individually, with the assistance of the Internet and some fragments of religious knowledge. This threat, in any event with Islamism, takes on a metasocial and metapolitical character giving it considerable strength. It expresses an anthropological and cultural novelty that is difficult to understand and all the more paradoxical, as it is very largely produced by our own societies.

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Chapter 8
Climate Change in Sociocultural Contexts: One Risk, Multiple Threats

Sabine Caillaud, Virginie Bonnot and Silvia Krauth-Gruber

"I am beginning to wonder how many more alarm bells must go off before the world rises to the challenge" António Guterres (March, 2018), the United Nations secretary general, said when mentioning what he considers the "biggest threat to humanity": climate change. Climate change also challenges social sciences, as they are called, to answer why there are still people who do not acknowledge the consequences of climate change and act appropriately. Numerous studies investigate people's understanding of climate change by referring to the notion of risk. Risk is defined as the acknowledgment of a hazard and its probability of occurring (Breakwell, 2010). Typically, these studies compare the public understanding of risk to the factual risk (i.e., scientific understanding) in terms of deficiencies (i.e., lack of awareness, lack of rationality, etc.) and outline cognitive biases, which trigger people's *wrong* perceptions of the *real* phenomena (e.g., Kempton, 1997; Lorenzoni, et al., 2006; Reynolds, Bostrom, Read, & Morgan, 2010). In particular, they emphasize the importance of pre-existing beliefs that frame the way people process and integrate new information about risk, the role of emotions and perceived vulnerability in risk perception, as well as how social influence and social interactions contribute to the understanding of risk (Breakwell, 2001, 2010). Pre-existing beliefs, emotions, and social interactions are considered to hinder correct scientific understanding. By doing so, risk studies fail to recognize the specificities of everyday knowledge (Joffe, 1999). Indeed, expert understanding and public understanding are different in nature because they follow different goals (Farr, 1993). Unlike scientists, lay people do not necessarily seek

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to get clear information about risks, mostly searching for psychological protection from perceived hazards (Joffe, 1995, 2003). Thus, another concept is needed to overcome the epistemological limits of risk in order to improve the analysis of public understanding of hazards.

Threat is the anticipation, by a group or an individual, of a negative outcome associated with perceived insufficient resources for facing this outcome (Milburn & Watman, 1981). This definition entails that threat involves pre-existing beliefs and a cognitive process. The anticipation of a negative outcome implies that the phenomenon is evaluated, at least depending on a specific pre-existing worldview. Moreover, the negative outcome and the perceived insufficient resources may heighten perceived vulnerability and induce negative emotions, such as fear. Finally, the concept of threat generally involves at least two people, one who threatens and one who is threatened. In the case of climate change, which constitutes a more global threat, it involves groups and the relationship between them (Jodelet, 2017). For example, people may believe that a country's farming habits rely on frequent rainfall (*pre-existing belief*), and that climate change may cause an increase in droughts leading to food shortage (*negative outcome*). If climate change is also believed to be difficult to stop (*perceived insufficient resources*), food shortage would make people's living conditions more difficult and make them fear climate change (*emotion*). They may, however, hope for solidarity with other countries to face this difficulty (*social interactions/intergroup relations*).

Additionally, threat is constructed and transformed during social interaction. It is neither external to the subject (as is risk), nor internal (as are emotions). It is in the in-between space created by individuals or groups dealing with a phenomenon and has, therefore, a dynamic dimension.[1] In the before mentioned example, if neighbour countries refuse to help, the threat will be transformed into a fight for food between countries (e.g., via national import and export laws). Studying threat, rather than risk, means analysing how threat is created and transformed during social interaction; how it varies depending on groups and time (Krauth-Gruber & Drozda-Senkowska, 2017) and how it is produced in the in-between space created by individuals or groups in relation to an object (e.g., Haas, Caillaud, & Demoures, 2017; see Caillaud, Bonnot, & Drozda-Senkowska, 2017, for a comprehensive review of research relying on the concept of threat).

In this chapter, we illustrate how the concept of threat can meet the challenge faced by social sciences concerning climate change. We will present several of our own studies on climate change that illustrate the role of pre-existing worldviews, emotions, and the very social dynamic of threat. In particular, we will show how climate change gives rise to different types of threat depending on the sociocultural context and the different identities at stake. Overall, our results suggest that threat is a continuous social process of sense making that definitively breaks with the concept of risk.

[1] This definition of threat makes the concept quite similar to social representations (see Howarth, 2006; Bauer & Gaskell, 2008 for examples). In fact, studies presented in this paper were largely conducted within this theoretical framework.

The Role of Pre-existing Worldviews When Representing Climate Change in France and Germany

In this section, we will illustrate the role of pre-existing worldviews in the construction of threat with a study about social representations of climate change in France and in Germany. According to social representation theory (Moscovici, 1961, 2001), when facing new, unfamiliar objects or phenomena, people try to familiarise themselves and to cope with the unknown by relying on their pre-existing knowledge. This process is called anchoring and links the new, unfamiliar object to categories of pre-existing knowledge and attributes characteristics of the selected category to it, allowing the phenomenon to be named and communicated (Kalampalikis & Haas, 2008). The anchoring process which relies on pre-existing knowledge implies a cognitive as well as a social dimension (Flick, 1995). Indeed, pre-existing knowledge is socially shared and can thus be considered social knowledge. Furthermore, anchoring takes place by and through social interactions; in other words, during formal or informal communications between group members who draw on their shared existing knowledge. Using various methods, Caillaud and colleagues (see Caillaud & Flick, 2013) conducted a research programme in order to understand, among other objectives, how climate change is represented in two countries: France and Germany. To illustrate how pre-existing beliefs shape threats, we present the results of two studies that examined the anchoring process of climate change in those countries, both in the media (formal communication) and in people's discourse (informal communication) about ecological behaviour.

France and Germany are both industrialized and capitalist European democracies. Their populations are comparable, as are their economic structures (OECD, 2016). Despite their socioeconomic similarities, previous research (Rudolf, 1998; Leiserowitz, 2007) has shown discrepancies in the way they deal with ecological issues that calls for a comparison of the way climate change is understood. The most relevant discrepancy for the present demonstration relates to the fact that structuration of ecological movements has followed different paths in those countries, thus anchoring these movements in different spheres: a moral and ethical one in Germany, and a political one in France. Indeed, since the 1960s, environmental organizations have flourished in both France and West Germany (in East Germany, such organizations were State controlled until 1989). In Germany, organizations defending local interests (*Bürgerinitiativen*) were grouped together around a common and federating ideological discourse centred on ethical reflections (Chibret, 1991; Rudolf, 1998; Jacquiot, 2007). In France, by contrast, the green movement was divided: some considered that environmental debates should remain outside all political arenas and actions should be science-based only, whereas other environmental organizations were drawn together by the May 1968 movement of political dissent and gave rise to political ecology (Chibret, 1991).

A press analysis (Caillaud, Kalampalikis & Flick, 2012) was conducted on 250 articles about the United Nations Climate Conference, held in Bali in 2007, published by the four leading daily papers in each country in order to investigate how

climate change was anchored in media discourse. Two methods of data analysis were used: a lexicometric analysis with Alceste method (Flick, Foster & Caillaud, 2015; Reinert, 1999) and an analysis of metaphors (Castro & Gomes, 2005; Praggeljaz, 2007). Results show that, in France, half the media discourse (55.83%) described the political negotiations of the conference seeking a solution to a hazard outlined by scientists. The other half of the discourse referred to financial issues at play for rich countries (17.24%) or presented technology and money as a way to cope with risks in poor countries (26.93%). By contrast, the same analysis found that a large part of the German media discourse (58.89%) described climate change as a problem for all of humanity (even if poor countries face additional financial problems); while the remaining part described the aim of the conference as bringing all countries together to face the same problem. Moreover, in the French press, war metaphors were found, whereas in Germany religious metaphors were used (e.g., the Australian prime minister ratifying the Kyoto protocol is compared to the parable of the prodigal son). These results indicate that, in France, climate change is anchored in political categories: it is presented as a political challenge to a hazard outlined by scientists. In contrast, in Germany climate change is treated as a moral issue for all humanity. This main result should be interpreted in light of the historical differences and pre-existing beliefs previously mentioned. It seems that the cultural context, and thus the pre-existing worldviews about ecological issues, frame the way climate change is anchored in different categories and, therefore, lead to the construction of two different threats. Whereas in France, climate change is considered a threat related to political and economic issues; in Germany, it is a moral issue that all countries have to face together.

These results (Caillaud et al., 2012) find an echo in the way ecological practices are debated in both countries at a group level (informal communication). Indeed, analysing ten focus groups (group discussions), Caillaud and Kalampalikis (2013) investigated the meaning French and Germans attribute to their ecological practices, and the intention they follow when they act pro-environmentally. More specifically, once each group, composed by a heterogeneous sample of 4–5 participants, had discussed some images about nature and greenhouse gas production, they were asked to list their ecological practices and discuss their efficiency. A qualitative dialogical content analysis was conducted (Markova, Linell, Grossen & Salazar Orvig, 2007) seeking to delineate the themes around which the debate about ecological practices was anchored and the specific group dynamic of the debate. Results reveal that in Germany, ecological practices were debated around the opposition between egoistic versus altruistic motives, and practices were evaluated on a moral ground. German groups developed the idea that ecological practices are better for *others* (future generations) but have negative consequences for *themselves* (less comfort for example). In France, the debate about ecological practices was anchored in the opposition between people's own political values and values of the society (e.g., consumerism). As such, acting environmentally is a way to act according to one's own political values. Moreover, ecological practices are described as a way for the individual to set up at least a symbolic resistance to the socioeconomic system perceived as an external constraint impossible to escape (i.e., by adopting ecological practices individuals may resist a

system that contributes to climate change). Ecological practices thus embody *liberty* for the actor in France (see also Dobré, 2002). Finally, the analysis of the group dynamic highlights how groups build meaning for their ecological practices through social interactions that are based on shared cultural beliefs.

At both a macrosocial (in the press) and a microsocial (in group discussions) level, climate change is thus constructed through communication as a different threat in each country, depending on cultural beliefs originating in part from the history of green movements. Moreover, the results show that the discourse about ecological practices contributes to the construction of different threats (i.e., threat to humanity's survival vs. threat involving political and economic issues). It thus seems warranted to consider those differing representations in order to be able to think about the bases on which to construct an international consensus to fight climate change.

The Emotional Dimension of the Climate Change Threat in France and Germany

In a questionnaire-based study, Caillaud, Krauth-Gruber and Bonnot (2019) further investigated these cultural differences at an individual level. More specifically, they analysed collective emotions and their role in predicting the willingness to act pro-environmentally in Germany and France. Emotions have been shown to play a significant role in promoting environmental awareness, ecological action intentions and behaviours (Harth, Leach, & Kessler, 2013; Kals & Maes, 2002; Kaiser, Schultz, Berenguer, Corral-Verdugo, & Tnkha, 2008). According to appraisal theories (Roseman, 2001; Scherer, 2001), emotions are not only induced by the specific appraisal of an event as personally relevant but also as relevant for other people with whom one identifies. Collective emotions that are experienced based on one's group membership (Mackie & Smith, 2017; Mackie, Maitner, & Smith, 2009) are particularly relevant when it comes to climate change because it involves everyone not just as an individual but also as a member of a group, as a citizen of a country. Taking the role of culture into account is important here because emotions are triggered by specific appraisals that are culturally grounded (e.g., Onwezen, Bartels & Antonides, 2014; Ratner, 2000). It was hypothesized that, given differences in social representations of climate change in both countries, French and Germans would appraise climate change differently, and would therefore experience different kinds of emotions when facing climate change that, in turn, would predict their pro-environmental intentions.

In the first part of the questionnaire, three open-ended questions were presented in order to confirm the aforementioned differences in social representations of ecological issues and climate change in both countries. In the second part of the questionnaire, participants read a brief paragraph about the causes and consequences of climate change. They were then asked to evaluate the responsibility of several agents, and to indicate to what extent they, as members of an industrialized country, felt self-focused collective emotions (fear, guilt, embarrassment and sadness) and

other-focused collective emotions (indignation and empathy for victims). Finally, participants' pro-environmental behavioural intentions were measured with several items including their willingness to sign a petition, to provide financial support to pro-environmental associations and to act pro-ecologically by lowering the heating and to give up air travel.

As hypothesized, specific patterns of responsibility appraisals, as well as of emotional responses were observed depending on the cultural context. French students attributed the responsibility more to the industrialized countries than to all other agents. They also ascribed more responsibility to themselves than to poor countries and consequently reported feeling more self-focused emotions, in particular embarrassment, sadness and guilt. German students, in contrast, held industrialized countries, governments and human activity equally accountable before all other agents. They accordingly reported feeling mainly other-focused emotions, such as empathy with the victims of climate change and moral indignation. Finally, self-centred emotions, in particular sadness, guilt and marginal embarrassment, best predicted intentions to act against climate change in France; whereas the other-centred emotion of empathy for victims was the best predictor of pro-environmental behaviour intentions in Germany.

These results are consistent with the aforementioned study of people's ecological practices (Caillaud & Kalampalikis, 2013), which are perceived as altruistic (other-centred) in Germany, while they are associated with their own political values (self-centred) in France. Altogether, this correlational study further illustrates that the same natural phenomenon, climate change, is differently construed as a threat depending on the cultural context and that specific emotions derive from these differing representations. The relationship between an emotion and the pro-ecological behaviours it triggers might consequently vary depending on the sociocultural context people are in and their specific representations of the threat. Knowing the specific emotions that are elicited in different contexts and their consequences has practical implications, for instance for designing effective interventions to change behaviours.

The Dynamics of Threat: How One Threat Transforms into Other Threats

Finally, relying on the concept of threat enables investigation into how threat might be transformed during social interactions to meet social and identity concerns. Using focus groups, Caillaud, Bonnot, Ratiu and Krauth-Gruber (2016) analysed how people collectively cope, cognitively, emotionally and socially, when faced with their responsibility regarding climate change. Using social representation theory and, more specifically, the collective symbolic coping model (Wagner, Kronberger & Seifert, 2002), and social identity theory (Mackie & Smith, 2017; Mackie et al., 2009; Tajfel & Turner, 1979) for studying collective emotions, we investigated in seven focus

groups (composed of students) how threat is differently customized during the discussion, in order to cope with negative emotions and/or a negative social identity (Barnett & Vasileiou, 2014; Breakwell, 1993). Consequently, groups' emotional state and coping strategies used during discussions, such as social categorization, social comparisons, and type of knowledge mobilized (e.g., lay sociological and everyday knowledge, folk psychology and lay scientific knowledge) were analysed. Dynamics of the group discussion (i.e., in terms of debate vs. consensus) were also examined.

Participants first had to collectively perform an ecological footprint task referring to what they think "people in general" do. At the end, they obtained the number of planets needed in order to satisfy the needs of all humans if everyone lives in such a way. This task was proposed in order to induce responsibility feelings for ecological problems. When they worked on this first task, they spontaneously referred to French people, and Parisians specifically. Moreover, results show that they used every day and lay sociological knowledge to carry out the task, with a special emphasis on personal experiences for half of the groups. Then, discovering their group's ecological footprint, group-based negative emotions arose. Groups who did not anticipate their high responsibility, minimized climate change consequences through a compensation trade-off by spontaneously comparing their group with less polluting, but poorer groups, which led to feelings of guilt. Those groups who did anticipate a bad score, denied their responsibility altogether.

During the second phase, groups had a chance to access five other relevant groups' ecological footprints (among 28 groups selected by the researchers). Results illustrate how groups use these comparisons in order to recover a positive emotional state. They first chose a superordinate category of comparison: either "rich countries" (to position the group) or "poor countries" (for compensation trade-off purposes), the latter being associated with complementary stereotyping of "poor but happy" Africans. The last comparison was always made with a supposedly big polluter (the USA, United Arab Emirates, China), emphasizing these targets' responsibility through stereotypical knowledge (e.g., the disproportionate size of cars and meals in the USA). In order to exonerate their own responsibility or make sense of unexpected information when discovering other groups' scores, they also spontaneously resorted to a categorization in terms of "city" versus "countryside" (big cities in rich countries; more people living in the countryside in, after all, "low footprint" China). Interestingly, they also seemed to cope with the threat by emphasizing their country-dependent, personally uncontrollable, way of life (consistent with Caillaud & Kalampalikis, 2013). Furthermore, this phase was characterized by a great deal of consensus in group interactions, lower negative emotions and higher positive ones. Consensual coping mechanisms, such as emphasizing others' responsibility (be it that of other countries or of one's socioeconomic system) was apparently sufficient to feel better.

The last part of the discussion focused on responsibility attributions. Groups had to place perceived causal agents of climate change on an arrow sign, from the least responsible to the most responsible. Arguments were much more debated, around a nature versus society dichotomy. As such, humans were placed both on the low and on the high polluters' side (i.e., as social animals requiring satisfaction of basic needs vs. as consumers), allowing diffusion of responsibility. Again, groups

mainly blamed the overarching system in which they were embedded (industries and their way of life: overconsumption, transport and so on), emphasizing their low perceived personal control over the threat. This stage in discussions also revealed more dissonance-related emotions than positive emotions.

In this study, the use of focus groups and the analysis of the dynamic of discourse illustrate how threat was transformed during the discussion: the threat of being responsible as French people for ecological issues was transformed by the group into the threat of the socioeconomic system, which forces individuals to act in a certain way. Group members strategically referred to specific types of knowledge, group dynamics and social identities in order to make this transformation successful. Taken together, these results are consistent with those of Caillaud et al. (2012) and exemplify how the way French people envision climate change (as a political/economic issue) may colour the way they cope with it and determines the emotions it triggers. Moreover, as previous studies have suggested (e.g., Bonnot & Krauth-Gruber, 2016; Caillaud & Kalampalikis, 2013), French people might be both particularly critical with regard to their sociopolitical system (e.g., Benabou, 2008) and also to feel dependent upon it (see social welfare). Yet, Shepherd and Kay (2012) have shown that system-dependency leads people to increase their level of trust in the government to deal with environmental issues (such as regarding bio energy). This increased level of trust leads on to avoidance of negative (or valence-ambiguous) information regarding the topic. Results of Caillaud et al. (2016), together with those of Caillaud and Kalampalikis (2013) further indicate that the prospect of climate change leads to outsourcing of responsibility. This is illustrated by both the criticism of the sociopolitical system considered to be responsible and the perceived impossibility of acting upon an uncontrollable system in which one feels dependent. The result is less willingness to take responsibility on an individual and a collective level.

Conclusion

Relying on research questioning, broadly speaking, lay understanding of climate change and ecological practices, emotional reactions and group-based coping strategies, this chapter shows how a risk, defined as such by scientists, is socially appraised/construed (both cognitively and emotionally) by people as different threats depending on their sociocultural contexts and the social identities at stake. These different construals are also greatly flexible, as one threat may be converted into another that seems easier to cope with. For instance, in France, groups seem to handle climate change threat by considering the socioeconomic system as the main source of threat, allowing them to reduce their individual and collective responsibility. On a societal level, studies have outlined how climate change is construed in media and/or political discourse as different threats, depending on the ideological standpoint of the newspaper (Carvalho, 2007) or the political issues at stake in the country (Weingart, Engels & Pansegrau, 2000). Interestingly, Weingart et al. (2000) also showed that, in return, scientific discourse adapted to the political discourse in order for climate

change to be acknowledged and, therefore, contributed to the threat dynamic. Thus, threat appears as a continuous construal where the scientific, political, media and everyday spheres interact.

Based on this research, we believe that relying on the concept of threat provides social scientists with new answers for meeting/raising the challenge of climate change and human inaction, for at least three reasons. First, understanding the way different countries envision climate change threat, climate change policies and ecological practices is fundamental to enter a dialogue based on common ground and mutual understanding. Second, the emotional dimension related to climate change has to be taken into account, along with the pre-existing beliefs (see also Hoijer, 2010). Specifying the emotions that are differently related to action depending on the cultural context may help tailored public campaigns conducive to awareness raising and behavioural change. Finally, the question of identity issues is central. By adopting specific ideological positions with regard to ecological questions, each country actively builds up its social/national identity by contrasting it with its neighbours (Keller, 1994; Caillaud, 2016). Emphasizing responsibility for climate change threatens people's social identity, whether based on nationality or on political ideologies. Consequently, in order to motivate action and change, we should take into account the specific identities, ideologies and systems that people are willing to preserve when confronted with these threats (e.g., Hennes, Ruisch, Feygina, Monteiro & Jost, 2016; Jacquet, Dietrich & Jost, 2014; Ferguson, MacDonald & Branscombe, 2016).

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Chapter 9
A Lasting Symbolic National Threat: The Dispute Over the Name Macedonia

Nikos Kalampalikis

The naming dispute between Greece and the Republic of North Macedonia has been ongoing for over 25 years. These two countries claimed the same name, the former for its region, the latter for the entire country. Using the same name for both region and nation has been perceived by Greece as a collective symbolic threat. In this chapter, we will revisit the origins of this symbolic threat and recent developments, then discuss the issue from a theoretical perspective of social representations prompted by a psychosocial analysis. By examining a contemporary conflictual historic episode, we will demonstrate the symbolic effectiveness of social mental productions and their study as a way of expressing social thought. This vehicle for a collective cultural and historical imagination anchors onto layers of historical and cultural memory, and is a foundation for the construction and expression of a threatened national identity.

Threatened by a Name

The territory of the Balkans—with the geographical entity of Macedonia in the centre—is complex from an ethnological, linguistic and religious point of view. The demographic changes owing to historical circumstances which have played out in this region have caused ongoing instability to this day. Three antagonistic national narratives (Bulgarian, Serbian and Greek) have persisted in a dormant state for nearly fifty years. Then, the dissolution of Yugoslavia caused them to re-emerge in the same region. The end of the Yugoslav federation gave rise to new nation-states, which in their search for political and economic legitimacy, once again highlighted the latent,

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violent power held by historical nationalisms. It was through this labyrinth, whose complexity is far from being described in detail here (see Kalampalikis, 2002, 2007), that the Socialist Republic of Macedonia achieved its independence in 1991.

On the eve of the Yugoslav war, the Yugoslav Socialist Republic of Macedonia reclaimed its autonomy and independence by referendum under the name of the *Republic of Macedonia*. Greece's reaction was instantaneous, refusing to accept this name on the grounds that firstly, it already belonged to one of its provinces in the north; and secondly, it emblematically represented part of its own cultural and historical heritage, namely the time of Alexander the Great. In addition, Greece condemned the use of hostile propaganda and some articles from the neighbouring constitution that seemed to potentially threaten its territorial integrity. Another element in the dispute was that not long afterwards, the neighbouring republic adopted a national flag decorated with the 'Star of Vergina', a star with sixteen rays on a red background historically associated with Alexander the Great's dynasty and geographically associated with a village in Greek Macedonia where it was discovered. In the meantime, approximately 45 countries had recognised the new republic under the provisional name the *Former Yugoslav Republic of Macedonia*—or even the *Republic of Macedonia*—based on the UN's decision made a few months earlier (it is now closer to 140 countries). For the Greeks, this was proof that their historical and cultural past was being usurped. Supported by the political authorities, thousands of people of all ages and political backgrounds demonstrated in the streets of major cities, flying the Greek flag and singing the national anthem. Participants' main slogans were: "Macedonia is Greek", "Macedonia is Greece" and "We don't want to sell our name". Dates, historical facts and old authors rose from their ashes. A glorious past was continually brought up, with Alexander the Great at the centre.

Between 1991 and 1995, a stormy social and political debate raged. The stakes were high: cultural and historical heritage, national symbols, territoriality and regional/national identity. The issue of this new country's name had become a threat, an objective one, but above all a symbolic threat to the imagination of an entire nation, likened to "stealing the Greek soul". Eventually, an intermediary agreement signed in 1995 established the conditions needed for political dialogue. This led to the Republic of Macedonia changing its flag and some articles in its constitution, and it was officially accepted into the United Nations under the provisional name of the *Former Yugoslav Republic of Macedonia*.[1] Its name would remain provisional pending resolution with Greece for seven years.

From 1995 until just recently, diplomatic discussions between the two countries focusing exclusively on the name dispute never actually resulted in agreement, instead there was a climate of scepticism and media rumours. Several alternative names were proposed, including solutions for universal usage (by all countries, including Greece) and those strictly for use within Greece, and even now the name dispute seems to have been postponed indefinitely. In public discourse, the name chosen to describe the neighbouring republic is 'Skopje' and its inhabitants 'Skopjans'.

[1] Former Yugoslav Republic of Macedonia (FYROM).

A Nationalist Threat?

Should we see an expression of nationalism underlying this threat posed by a name (Gerrits, 2016)? That would be to disregard the difficulty in defining a nation. According to Hobsbawm, the objective criteria often used to define 'nation' are as vague, shifting and ambiguous as the shape of clouds in relation to the earth's surface (1992, p. 15). Efforts to find a contemporary definition of nation thus come up against a paradox and a flaw for researchers. There is a strong, deep-seated declarative sentiment about national topics relating to their own sense of identity, without necessarily being able to objectively pinpoint what this sentiment, this form of identification, is exactly, nor how it differs from other possible forms of identification.

The same aporia can be found in social psychology with Tajfel (1969), in one of his papers on the formation of national attitudes. From the outset, the author does not hide his quandary in attempting to define 'nation', which incidentally he describes as a 'shadowy' concept. He concludes that "a nation is the largest, the most complex and abstract human membership group; and it is also a group which seems to be able to command at times a greater intensity of attachment than almost any other" (1969, pp. 143–144). Billig develops this idea and underlines that it is not only "natural" to have a national identity, it is "also something natural to remember" (1995, p. 37). Through this prism, Anderson (1991) described nations as "imagined communities". Communities need to be imagined, as their perception (temporal, spatial and human) greatly exceeds the immediate experience. Communities are distinguishable from each other not by their falsity or authenticity, but by the particular way in which each one goes about trying to represent itself as such. This representational spectrum reflects both the plurality and the singularity of the styles used to think about nation, embedded in specific socio-historical contexts and shaped by indigenous cultures. Thinking about one's own nation thus amounts to using the mental frameworks of a given society at a particular moment in time. These frameworks—vehicles for elements from local traditions and culture—convey an entire collective imagination about the national group that makes it unique, i.e., different.

National Attitudes and Belief Systems

Tajfel (1969, pp. 157–158) emphasised the cognitive and affective aspects of national attitudes, but also the formation of belief and value systems around the national idea, through the processes of social influence and identification. In this sense, the *sine qua non* of successful social communication is a population's acceptance of messages of a national nature. Direct proof that this kind of message has succeeded is particularly evident in the subjective perception of an assumed threat to the national membership group which is shared by the other members. This attitude "must be understood as a function of psychological mechanisms which transform the variety and multiplicity of social messages into a coherent cognitive and affective structure. One consists

of simplifying, the other of "ideologising" the relevant aspects of the social (and sometimes also physical) environment" (Tajfel 1969, p. 168). Tajfel implicitly lays the foundations for a link between the idea of nation, social identity and social representation theory. These two levels of interpreting national attitudes (*simplifying* and *ideologising*) highlight a description—albeit an elementary one—of mechanisms for the formation of social representations, such as objectification and anchoring (Jodelet, 2015; Moscovici, 2013). We will come back to this, particularly anchoring.

A Lasting Threat

It was only very recently, last June, that a solution for the naming issue was attempted by the Greek government to help its neighbouring country in its efforts to enter NATO and the EU. A new name was proposed by the two prime ministers: 'Republic of North Macedonia'. This change, however, required various political steps (ratification by the Macedonian Parliament, then submission to a referendum, and ratification by the Greek Parliament once the acceptance has been officially acknowledged). Within the two countries, this attempt sparked many reactions, both popular and political. Many popular demonstrations took place in Greece, using slogans from 25 years ago, but nothing like the mass rallies of the past. Polls showed that 58% of Greeks interviewed took a negative view of the agreement between the two countries. In addition, in Athens, the head of Greek diplomacy resigned last October, the day after a heated meeting of the Council of Ministers during which he argued with the Minister of Defence, who has always been opposed to the recent agreement on the new name. This minister is also the leader of a small sovereigntist party within the government coalition, which is likely to move the country towards early legislative elections. In Skopje, the Prime Minister does not have the qualified majority to implement these changes, and the opposition has condemned the agreement, describing it as 'capitulation'.

More than half a century after the last phase of the conflict, the climate is once again sensitive and shifting. A significant point of contention, sharing a name presents major identity issues for each group, both vital and incompatible at the same time. This sense of identity forges a nation's knowledge, passed on through their history, teaching and shared symbols. It is an unthinkable name for Greek society, even today. The Macedonian issue shows the importance given to names, toponyms and ethnonyms, particularly when these convey key senses of identity for the group using them. The paradox of this matter arises from the fact that for both countries—Greece and the Republic of Macedonia—although via different processes, the name issue has the same focal reference: their national identity. Yet, they do not share the same representations of this identity. The Macedonian situation came about because a single name, with key senses of identity embedded in the memory and history of two peoples, has become an object of desire, disputes and grievances. The same word refers to a geographical area and an empire, an administrative province and an independent state, the inhabitants of one country and those of a province of

another. A single word is brimming with meanings, memories, traditions, histories and identity-based, contradictory and antagonistic if not controversial content. This symbolic conflict is an illustrative example of the importance of studying the role of names and incorporating their historicity into social psychology, to better understand the processes involved in identity and memory in which they are inherent, thus contributing to a more comprehensive understanding of collective ideation. It also impels us to reflect on the theory behind one of the two major processes in the formation of social representations, anchoring.

Principles of the Process of Anchoring

The process of anchoring is as old as the theory of social representations. Alongside the process of objectification, it was proposed when the theory was first formulated as one of the two main mechanisms for the formation of social representations (see e.g., Jodelet, 2015; Kalampalikis, 2019; Moscovici, 1961, 2000, 2013; Rouquette & Flament, 2005; Viaud, 2000). Just briefly, it is worth remembering here that the role of anchoring is to establish ties between new meanings from the social sphere and the stock of existing, culturally available and accessible knowledge. It is maintained through the need to reduce the element of uncertainty inherent in novelties (e.g., information, images, events, concepts, theories, people, groups, etc.), the desire to cope with the unknown represented by novelties and the desire to reduce the gap in understanding and communication about a given novelty. Metaphorically speaking, anchoring quenches our thirst for familiarising ourselves with the unfamiliar. In other words, through anchoring, representations enter society, becoming *familiar* for the group, while remaining dependent on earlier classification systems and existing networks of meaning. In turn, this *already-there*, this system of knowledge, influences the novelty's fate and degree of progressive integration by assigning it a priority (time), value (*evaluation*), hierarchy (*classification*) and name (*naming*). Thanks to its alliance and connection with this network, the new element becomes recognisable, imaginable and functional. In a word, it becomes *representable*—a social object capable of mediating interpretations within social groups. Familiarising oneself with an object, an idea or a person amounts to giving it/them meaning and existence. Conversely, something unclassified and unnamed is foreign, non-existent and, at the same time, threatening. In this article, I would like to focus on these pre-existing cognitive frameworks, the ultimate vehicles of transmission. Mental tools for understanding and interpreting the world and interacting with others, these culturally significant frameworks shape, dictate, anticipate and renew reality. These socio-cognitive categories offer models for the transmission, reading and interpretation of an inherently multifaceted and also increasingly complex reality. They largely contribute to forming and expressing social relations (through socio-cognitive processes such as classification, comparison, analogy, naming and prototypicality).

Beyond the Familiar

A *conservative* vision of anchoring would involve reducing it to a simple normative meta-system. According to this vision, the new object in question would simply inherit the normative attributes of the category, giving it a loose, consensus-based meaning. Despite its newness, it thus becomes just another element amongst others; although new, it takes on most of the basic organisational principles of the category it has just joined. Mechanical incorporation, inward-looking dynamic change, passive transmission, etc., these are at least three characteristics of this vision.

An *idealistic* vision of anchoring would involve thinking of it as a peacekeeping mechanism, a stock of past knowledge into which a new functional element introduces itself and spreads. The latter imparts its novelty to the category, partially transforming the prototype and in the long term striving for an active transmission of the change. Two different visions—one static, the other dynamic—which nevertheless have one point in common, namely a certain policy of incorporating novelties, a 'positive' familiarisation policy. How then does one explain the persistence of a number of 'impossible' familiarisations, particularly those relating to otherness in all its forms (Jodelet, 2015; Kalampalikis, 2007) and the transmission of historically delicate periods? (Haas, 2002). One of the main functions attributed to anchoring is the domestication of the strange (Moscovici, 2013). Continuing with the metaphor, this presupposes categories that are open to novelty and the strange, categories characterised by a certain sense of hospitality. The rules of hospitality established by law in Athens and Rome required citizens to welcome strangers. They even advocated the exchange of half a symbol in the form of an object which would create a bond and a debt. However, at no time have the rules of hospitality ever meant accepting strangers under any other status than that of a stranger. Incorporating the novelty, familiarising oneself with the strange, yes, but always retaining the status of stranger. An opposite but relatively symmetrical procedure, this time leaning towards exclusion, was that of ostracism. Once again, an object—a shell or piece of pottery—was used to inscribe the name of the person the community had collectively decided to banish, to exclude, with no possibility of appeal either.

Disaffiliation from the familiar, defamiliarisation, recomposition and protection of the initial category. The words used by a society need that society to translate their intelligibility. We will now attempt to outline a hypothesis suggesting that the familiarisation traditionally attributed to anchoring can also work in the other direction, transmitting and guaranteeing the unfamiliar, ensuring that the unfamiliar remains so, thus establishing strangeness.

Familiarisation with novelty acts as a basic function of social representations, one of the true *raisons d'être* in social and mental life. Two fundamental processes dialogically transform knowledge into representation and social aspects into representation, objectification and anchoring. Metaphorically speaking, anchoring quenches our thirst for familiarising ourselves with the unfamiliar. In other words, through anchoring, representations enter society, becoming 'familiar' for the group, while

remaining dependent on earlier classification systems and existing networks of meaning. In turn, this 'already-there', this system of knowledge influences the novelty's fate and degree of progressive integration by assigning it a priority (time), value (evaluation), hierarchy (classification) and name (naming). Thanks to its alliance and connection with this network, the new element becomes recognisable, imaginable and functional. In a word, it becomes *representable*—a social object capable of mediating interpretations within social groups. Familiarising oneself with an object, an idea or a person amounts to giving it/them meaning and existence. Conversely, something unclassified and unnamed is foreign, non-existent and, at the same time, threatening.

Revisiting the key concepts of the theory, in this chapter, we would like to focus on these pre-existing cognitive frameworks, the ultimate vehicles of transmission. Mental tools for understanding and interpreting the world and interacting with others, these culturally significant frameworks shape, dictate, anticipate and renew reality. These socio-cognitive categories offer models for the transmission, reading and interpretation of an inherently multifaceted and also increasingly complex reality. They largely contribute to forming and expressing social relations, supposing a certain policy of incorporating novelties, a 'positive' familiarisation policy. Resistance, inertia, friction, obstacles and threats can, however, jeopardise the incorporation of, the integration of and consequently familiarisation with the novelty. The strange can of course appear 'less' strange, which is undoubtedly less threatening, and more familiar than at first, without necessarily fully losing its status as strange. As how do you explain the persistence of a number of 'impossible' familiarisations, particularly those relating to otherness in all its forms (e.g., immigrants and the mentally ill) and the transmission of historically delicate periods? With the help of empirical examples, we will now attempt to illustrate a hypothesis suggesting that the familiarisation traditionally attributed to anchoring can also work in the other direction, transmitting and guaranteeing the unfamiliar, ensuring that the unfamiliar remains so, thus establishing strangeness.

Familiarisation with the Unfamiliar

Let us consider a classic example from Denise Jodelet's study on mental illness (1991). At this point, I would remind you that in a monograph that has since become a classic, this author emphasised the persistence and reinforcement of archaic belief on the contagion of madness within a particular community that lived with the mentally ill. This belief, which played roles of symbolically defending and protecting the community against a 'threatening' otherness, would be reactivated in spite of, or because of, the introduction of medication. It is as if interpretations of reality are set aside in the collective memory, never being completely erased in case some information comes to light that would make it useful, a kind of insurance against the unknown of the future (Jodelet, 2015, p. 33). This is an illustration of reverse familiarisation, of familiarisation with the strangeness of mental illness, which also resists

any novelty that might call it into question. Here, transmission appears in the form of protection. Let us pause for a moment at another classic example, borrowed from phenomenology, from a text that Alfred Schütz himself entitled *An Essay in Social Psychology*. This includes two brief but outstanding articles by Schütz (2003), "The Stranger" and "The Homecomer", in which the author explores the issue of familiarisation, both for the person leaving their habitual collective frameworks of attendance, belonging and life, while remaining in the same cultural group (plurality of the intra difference), and for the foreigner returning to their country of origin. Both texts are characterised by a common aporia, that of a delicate, even impossible familiarisation, due to or despite the domestication of these initial categories. A similar but different social group is no more familiar than a primary group after a long absence. We posit that undoubtedly unlike scientific thinking, social thinking—particularly regarding otherness (Jodelet, 2015)—is not always compatible with 'positive' familiarisation.

This hypothesis was initially inspired by the study of the naming conflict presented at the start of the chapter (Kalampalikis, 2007). It has since been strengthened by other readings and studies (Apostolidis, Duveen, & Kalampalikis, 2002; Kalampalikis, 2006, 2019; Kalampalikis, Jodelet, Wieviorka, Moscovici, & Moscovici, 2019). This conflict reveals a rather palpable threat to the identity (and imagination) of two national groups and a risk of non-differentiation. Two national groups lay claim to a single name belonging to periods of history that were not learnt, transmitted or represented in the same way. In some of our findings relating to the name the *Republic of Macedonia* in Greek speech, we noted difficulties in naming, thinking, perceiving and classifying, in short, visualising the Other based on a name/label the group had decided to assign to it, i.e., 'Skopje/Skopjans'. These descriptions, conceived of and used exclusively by and for the national group, follow an identitarian strategy of relegating to otherness (Jodelet, 2015), aiming to render 'the Other' different, foreign, not to mention strange. Given that in their verbal responses, all our subjects referred to the *Republic of Macedonia* as 'Skopje', and its inhabitants 'Skopjans'—perfectly legitimate expressions in social discourse in Greece—the question about the name currently in common use seemed redundant. Instead, our attention focused on the name(s) our interviewees would like to see used to refer to this republic, in other words, on the name they themselves would prefer. Several subjects gave two or three different names, others only one; nearly all subjects excluded the presence of the word Macedonia, whether in grammatical or other form, in the proposed names. The current name for the Republic of Macedonia in Greek public discourse and common sense, i.e., 'Skopje', won the majority of polls of our subjects (53%), including those originally from Greek Macedonia (61%). 35% of our subjects wanted to see an unspecified name that does not include the term Macedonia in a grammatical or any other form. Finally, only 11% of interviewees, composed exclusively of Athenians, said they prefer the current provisional name of the *Republic of Macedonia* in the form of the acronym FYROM, masking the controversial word and avoiding having to pronounce it.

On the basis of these results, plus the first two name preferences, we again note that the vast majority (88%) expressed a desire to name the neighbouring republic something that does not include the term Macedonia. Moreover, we cannot fail to

notice the absence of a more acceptable name to our subjects other than the artificial one of its capital. Following this, once the preferred name had been given, we asked the subjects to assign a nationality to these inhabitants, on the basis of this affirmation. In most cases, this question elicited surprise and sometimes embarrassment in interviewees. They needed to think for a few seconds, as if they had been asked a question they had never thought about and which suddenly seemed important. We mention this not to highlight our question, but to show and reflect as far as possible our subjects' surprise at a question to which they were accustomed to answering exclusively in the negative (non-Greeks), or with a denial of a tautology (Greeks = Macedonians). However, some of them eventually gave one or even several responses—one might say very interesting 'verified hypotheses'—regarding their neighbours' national affiliation.

Why 'verified hypotheses'? Quite simply because on interpreting the results, we noticed how difficult it was for our population to classify, to categorise its new neighbours into categories which were previously thought to be valid. Putting aside the admissions of ignorance ('I don't know'—22%), affirmations in the negative ('Non-Greek'—11%), and tautologies ('Skopjan'—14%) that we commented on earlier, we would like to highlight the second most frequent response of 'Yugoslav' (20%). This was mainly chosen by subjects originally from Greek Macedonia (31% vs. 9%) and clearly demonstrates the persistence of an earlier classification system as opposed to a new element ('Skopje'). The novelty of this element needs to be considered in context, as it has been around for approximately 50 years as the name of one of the six republics of the Yugoslav federation. However, several subjects admitted during the interviews that the name of the city was unknown to them, much more so than that of the republic. Furthermore, the new context of this classification, i.e., the naming issue between the two countries, makes this element different, giving it the appearance of novelty and strangeness, which as it touches on the sensitive issue of identity, is inevitably seen as a threat. Earlier in this article, I emphasised the fact that anchoring familiarises the strange and helps us understand the existence of a hierarchy and network of meaning, in line with the system of representations into which it is being integrated. In a way, considering 'Skopjans' as 'Yugoslavs' is refusing to abandon a classification that maintains the barriers of the past between the two groups' identity. An interviewee offered an explanation: "Greece has been Greece for years. Yugoslavia has been Yugoslavia for years. Yugoslavia broke up into all those states due to war. That does not mean it has ceased to be Yugoslavia."

Characterised by the controversy that created it, this oddity in turn makes it impossible to see the Other, impossible to imagine them in any other way than through the prism of identity-based antagonism. It creates a *hysteresis* and representation deficit that can be seen in our results through the impossibility for subjects to assign this little-known or unknown population a nationality, through the embarrassment engendered when they attempted to classify it into a national and cultural category that might give it meaning, to situate it amongst others, and inevitably, in relation to themselves. The only socio-cognitive framework for familiarisation that was activated during this process was none other than its past representation, namely 'Yugoslav', a general category that maintains difference while neutralising all fear of danger. Our subjects'

responses fit perfectly into Tajfel's succinct summary of 'we are what we are because they are not what we are' (1979, p. 183). An analysis of their discourse prompts us to supplement, or paraphrase, this maxim of identity by adding: *we are what we are because we don't know who they are* .

When discussing Halbwachs's notion of historical memory, Ricoeur noted that this included a progressive familiarisation with the unfamiliar and disturbing strangeness of the historic past (2004). This familiarisation is like a progressive anchoring, helping extend the scope of the experienced past to that of generational filiation. A concept that is anything but foreign to Moscovici's when he stated that "memory is the organ by which the unfamiliar is made familiar" (1993, p. 74). As the link between social representations and memory is established through conceptual affiliation to the process of anchoring, it is legitimate to wonder whether there is another function compatible with the one described earlier that operates in the other direction, ensuring that the unfamiliar remains unfamiliar. Considering the difference in otherness—whether this is in the tangible form of a group or person or abstract in terms of knowledge and thought—led Moscovici (2002, 2013) to make a distinction between two elementary forms of social thinking, *stigmatic* and *symbolic* thinking. Both deal with difference; however, for the former, this difference is thought of based on the principle of comparison and leans towards inferiority, whereas for the latter, the same difference is thought of in terms of recognition, thus without any connotation of hierarchical level. Using the distinction proposed by Moscovici, we might infer that this functions similarly to anchoring. One form of anchoring that is compatible with symbolic thinking and establishes familiarity, and a second form compatible with stigmatic thinking that establishes strangeness. Thus, in terms of transmission, a new form of familiarisation would appear, a familiarisation with strangeness—with what needs to remain foreign, strange, 'non-me'—to ensure, orchestrate or establish difference. These ways of experiencing the world—living, dynamic and permanent—reveal to each of us the portion of the world in which we are participating without really acknowledging it. An acknowledgement of familiar strangeness. Such is the enigma of everyday life that philosophy, as well as social psychology, has long believed to be self-evident. As Bégout puts it, anyone who considers the everyday world to be limited to the unproblematic perpetuation of simply 'being there' is a victim complicit in their own mystification (Bégout, 2005, p. 46).

We have now outlined a hypothesis on anchoring, attempting to demystify the sometimes-irenic uses of this fundamental process and taking the opportunity to elaborate on the issue of names with respect to familiarisation. Demystifying familiarisation means admitting the tensions inherent in the objects we study (Kalampalikis & Apostolidis, 2020). These tensions appear in a number of our objects of study, synonymous with their historicity and group appropriation, sometimes even their resistance to change and imperviousness to restrictive, threatening or contradictory information. A term, tension, which refers to one of the most significant definitions in social psychology, that of psychosocial perspective, including the association of ideas, and even taking the form of conflict to symbolise the dynamic nature of relations that govern the phenomena we face.

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Chapter 10
Gypsies: What Threat? Threat and Purity in Majority and Minority Relationships

Juan A. Pérez and Farah Ghosn

Paraphrasing the book *Purity and Danger* by Douglas (1966), this chapter proposes an analysis of the relationships between the majority and the minority in terms of threat and purity. The majority will do everything possible to remain pure, that is, not to mix with the minority ontologised as wild (i.e., closer to nature than to the majority culture). For the majority, mixing with such a minority results in pollution or degradation. The taboos of difference and contact underlie a whole series of practices and speeches in daily life. With these practices and speeches, the majority socialises its members so that they do not mix with stigmatised minorities.

In the second part of the chapter, the perspective of the social construction of the Gypsy minority as a threat to the Gadje society is developed. It will be seen how the prejudice, discrimination, and persecution, of which the Gypsies have been and are targeted for centuries, are what prevent their integration into the cultural mainstream and have forced many of them into nomadism. Multiple studies have shown that the real or symbolic threat attributed to a minority generates prejudice toward it. Complementarily, we will present a new experiment in which the opposite is shown—that it is the very discrimination practiced by the majority against the Gypsies that leads this majority to later see the Gypsies as more threatening and dangerous.

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The Stigmatic Thought and the Construction of the Minority Threat

Moscovici (2002) describes symbolic thought and stigmatic thought as two elementary forms of social thought. Symbolic and stigmatic thoughts guide the interactions of social inclusion and exclusion that the majority maintains with the minority. How will these representations intervene in the social construction of the minority as a threat to the majority? Symbolic thought is characterized because a bond with the minority is maintained; it occurs when the majority establishes a domestication relationship with the minority. In this manner, something familiar to the majority—for example, a cultural habit of the dominant majority—is projected or inculcated in the minority, so that the majority builds a socio-cognitive hospitality, a bond with the minority. However, this hospitality maintains ambivalence as long as the "other" keeps evoking the phantom of otherness. Behaviours (more or less subtle) of domination and discrimination against the minority will continue to be observed. In this relationship, the minority experiences what Bourdieu (1997) calls "domestic violence". This form of representation of the minority is contrasted by stigmatic thought, which occurs when the foreigner, the heretic, the deviated, or the nomad is only thought of as a stranger. The stranger does not get minimum socio-cognitive hospitality or a minimum process of familiarisation. As a result, the taboo of difference is established. Through this form of interaction, the majority represents the minority as an outsider of the societal mainstream and, thus, as a threat. The stigma, with which the majority ontologises the minority as impure, is what transforms the minority into a danger in the eyes of the majority.

In these elemental forms of inclusion and exclusion of the other, the simile of the animal is recurrent in social representations of the minorities (Pérez, Moscovici, & Chulvi, 2007). The majority uses this metaphor to affirm itself as a prototype of human nature and to call into question the human nature of minorities. It is not the animal in itself that would be at the base of the social construction of the minority as a threat to the majority. The most fundamental anthropological principle of classification of animals is what divides them into domestic and wild animals (Manning & Serpell, 1994). A similar principle would result in differentiating categories of domestic human beings and wild human beings (Moscovici, 1974). With each of these two categories—domestic and wild—the dominant group and the majority establish a specific type of interaction and threat.

While interaction in the domestic domain depends on symbolic thought, interaction in the wild realm is managed through stigmatic thought. With the minorities represented as domestic, the domestication process takes place; there is an incessant pressure to assimilate and to convert the minority into the cultural forms of the majority. In the process of domestication, a symbolic relationship takes place—that of indenture. As the minority acquires social and cultural aspects of the majority, the latter recognizes itself in the former, seeing in the minority a reflection of their own habits and forms of conduct. That is, the acculturation of the minority becomes a token of the culture of the majority. However, when the minority is represented

as wild, it implements a stigmatic thought that leads to the taboo of difference—a process of otherisation and estrangement through which the majority not only fails to recognize itself in the minority, but also the minority becomes an ontology, something foreign and a threat to the majority. The hypothesis developed throughout this chapter is that the more stigmatic thought is applied to the minority, the more the minority is represented as a threatening entity. In this case, the majority will try to avoid all contact with the minority. When the minority is represented in the wild spectrum, it emerges as a danger; the mixture with this minority becomes a taboo, given the alleged stigma and the impurity that it would introduce to the majority body. Therefore, the threat does not originate in the minority itself but in the construction of wilderness by the majority; and, as pointed out by Levi-Strauss (1952), all societies create their own savage.

The threat that the minority generates when represented as wild is anchored in a folk-anthropology in which the majority constructs itself as an ethnic, religious, national, and racial body that incarnates in the essence of good and is instituted with the duty to safeguard it (Pérez, 2018). There is a permanent normative pressure to conformism, so that majority group members behave in consonance with this "organic body." Similar to the scapegoating phenomenon (e.g., Douglas, 1995; Staub, 1989), to maintain such a "body" in a state of purity, the majority sent out the minority into the wilderness, highlighting in this manner the danger of mixing with the minority. It is from these beliefs that the majority has about itself that the foreign minority is represented, anchoring evil in it, seeing it as a danger of contamination and worsening. From that representation, the taboo of contact with this debased minority is propagated. As in Foucault's notion of bio power (1997), the issue is the racism of the permanent purification that a society (the dominant majority group) directs against itself under the paranoia of defending itself.

Threat and Prejudice

A series of studies in social psychology showed that the majority group manifests more negative prejudice and negative attitudes against the minority that they perceive as a real or symbolic threat (for a review see Stephan, Ybarra, & Morrison, 2016). For example, the citizens who perceive immigrants as a threat manifest more negative attitudes against them (e.g., Pereira, Vala, & Costa-Lopes, 2010). This phenomenon is not restricted to the perception of minorities, but it is generalised to the perception of almost any outgroup (for a review, see Riek, Mania, & Gaertner, 2006). The threat generated by the mere presence of a different group seems to be the organizing principle of the so-called universal ethnocentrism (see Levine & Campbell, 1972), in which the neighbouring town or tribe is accused of being aggressive, selfish, liars, and bad people—that is, a permanent threat.

On the other hand, minorities who live in daily interaction with the majority, usually knows well the negative stereotypes, prejudice, and valuations that are maintained against them. The minority will feel insulted, despised, and rejected. It will

experience the interaction with the majority as threating and, with anxiety and uncertainty, hope that those prejudices will not translate into acts of concrete discrimination and exclusion, as usually ends up happening. A discriminated minority has different forms of response, but practically any form of response will only polarize the initial feeling of real or imagined threat in the majority. In some cases, minorities end up internalizing the prejudice that weighs on them. This internalisation could be as much (or even more) implicit as explicit (Carney, Banaji, & Krieger, 2010). In such cases, the minority behaves with resignation, reaching self-discrimination. This method of self-exclusion is a self-esteem defence mechanism, a way of anticipating and avoiding the suffering generated by discrimination. By avoiding those situations that are anticipated as hostile, the minority reduces or eliminates all chances of interaction and contact with the majority. In the most extreme cases, it would lead to a "ghettoization" of the minority (Pérez, 2006), and the majority usually perceives ghettos as nuclei of threat and danger.

The studies on threat and prejudice have focused on showing that threat breeds prejudice (Stephan et al., 2016). To our knowledge, what has not yet been addressed is the previous process that leads to the social construction of the minority as a threat independent of the real threat that this minority represents.

Gypsies: What Threat?

Starting from a more general historical perspective, the hypothesis of how the prejudice of the majority itself (not the minority per se) ends up constructing the minority as a threat can be illustrated with the history of interactions between Gypsies and the majority society (e.g., Brearley, 2001). Let us remember one of the multiple pragmatics dictated against the gypsies. At midnight on 30th July 1749, Fernando VI's order to arrest all the Gypsies in Spain was carried out without distinction of gender or age. The measure was justified by the idea to "contain the idle and harmful people that infect Spain." Among the women, men, elderly people, and children, about 9000 Gypsies were apprehended. The idea was to "exterminate them all at once," separating men and women so that they would not reproduce. There was no amnesty until 1765, when thousands of them had already died in the *presidios* (i.e., fortified jails). As it is already becoming widely known, the persecution of Gypsies throughout Europe neither started nor ended there (for example, see Brearley, 2001; Liégois, 1994). What threat did Gypsy children, elderly people, women, and men represent so as to be exterminated "all at once"?

For more than five centuries in Europe, Gypsies maintained a lifestyle notably differentiated from the majority. Historically, the core of the threat that Gypsies represented for the Gadjes (non-Gypsies) was anchored in the nomadic-sedentary opposition. Interestingly, in Spain, both Gypsies and non-Gypsies refer to the majority of non-Gypsies as *Payos*, which is another word for sedentary. This designation is commonly used and understood by all Spaniards. The etymology of *Payo* (from the Latin *pagensis*) refers to the villager and the farmer. It implies the meaning of simple,

stupid, and credulous. The term *Gadjo*, from the Romani language with which non-Gypsies are designated, also has a similar etymological meaning because it refers to "being stuck to the ground."

In literature, there are two interpretations of Gypsy nomadism. On one hand, an attribution is made as if it was an essential feature of their identity. On the other, the supposed nomadism is explained by a material need to move. The reasons why they are nomads, or migrate from one place to another, are diverse and contextual, but they are generally the same reasons for which any other group migrates (Reyniers, 1993). In any case, the most frequent factor that has forced Gypsies to move from country to country for centuries is the multitude of times they have suffered expulsion from each and every European country without exception (see Liégois, 1994). When expelled from one country, they go to another that also expels them to another, and so on.

Evidently, economic reasons influence travel. Against the belief that Gypsies wander randomly, Djuric (1993) points out that Gypsy nomadism, as in nomadism in general, is a livelihood adapted to the need to obtain material resources that are insufficient in a given space and time. The "nomad" develops an ability to take advantage of resources that are marginal for the sedentary. A large portion of the Gypsies deal with street markets or seasonal work, and once it is over, they must move to the next job. In addition, street markets are not performed randomly; there is a distribution of areas, markets, and sites that only one group can exploit. Some initial activities in which the Gypsies are specialised (animal sale for farmers, metal work, entertainment, etc.) had, until not long ago, an inherent need to travel. Obviously, the pleasure of the trip and the desire to visit family that went to another area should not be ruled out. Whatever the reason, this summary of factors suggests that Gypsy nomadism does not have to be understood as an essential characteristic of the way of being a Gypsy. Gypsy nomadism is most likely a direct response to (a) a situation or an environment that expels them, (b) immersion in a warlike conflict, or (c) their lack of resources to continue living in that place. Furthermore, it is very difficult to estimate the number of Gypsies that have been "sedentarised" and how many live in a more or less assiduous nomadism. Liégois (1994) points out that the majority of Gypsies in Europe are not nomads and that travelling is not central to their lifestyle. It is noted that currently 20% of Gypsies in Europe are nomadic, and another 20% are semi-nomadic (they travel for one part of the year). Nevertheless, this percentage varies a lot by country; in Sweden and Denmark, it seems that the majority is sedentary, as it is in Spain and Austria. In Britain, Ireland, France, and Belgium, almost all are "travellers" (*gens du voyage*). In Bulgaria, since the fall of the communist dictatorship, it is estimated that 30% of Gypsies have undertaken the journey.

The conclusion that the Gypsies are not nomads by nature, but rather by a series of prejudices and a multitude of discrimination that they have suffered and continue to suffer from the majority, seems to be much more in agreement with the facts. Maintaining the representation of Gypsies as nomads by nature is a way of representing them as from another epoch and outside of the mainstream of sedentary society. It is a reflection of the otherising ontologisation to which they are targeted.

The Threat of the Gypsy by Constructing the Gypsy as a Nomad

Whether it is true or not, folk knowledge sees Gypsies as nomads. The linking of Gypsies with the concept of nomadism does not, however, refer exclusively to travelling (surely many Gadjes travel greater distances). Gypsy nomadism refers to a complex social system that is anchored in practices such as living in slums or caravans that evoke the provisional, living from street vending, being a seasonal worker, and going from town to town collecting metal scrap and cardboard. To know that the Gypsies live scattered in several countries and that their origin is from "far away" (India or Egypt) conveys an image of a group that is permanently travelling. This difficulty in defining their territorial identity is reflected in the gentilics to which they are referred, Egyptian or Bohemian. This reveals an interest in fixing Gypsies within a geographical origin. In a more abstract way, they are called *Travellers* in the UK and *camps volants* or *gens de voyage* in France. Interestingly, this representation of Gypsies as nomads seems to have been internalised by the first Gypsy political activists. In the first World Romani Congress held in London in 1971, it was decided to include a cartwheel in what would be the Gypsy flag.

More than taking pleasure in travelling, nomadism is almost the only way of life that the majority of society allows Gypsies to have. Gypsy nomadism is, above all, the response to the difficulties and barriers of integration that the Gypsies encounter day after day: economic (they have to make a living with the already mentioned informal economy), political (national and municipal laws that regulate and prohibit Gypsy settlement), historical (their initial representation as pilgrims soon gave way to their persecution), and psychosocial (the dynamic of the prejudice that ascribed their wandering life to their most essential nature associates them with furtive animals; Djuric, 1993).

From a psychosocial perspective, not having a fixed home address conveys the notion of being people careless about community or family; it is not clear who can claim responsibility beyond the present individual. As fleeting people, this distrust associated with the nomad hinders the consolidation of social ties (Moscovici & Pérez, 2003). Different concepts of public and private property, including theft, are implicit in nomadism. The Gypsy nomad still evokes a pejorative feeling of a vagabond, parasite, bandit, or criminal controlled and watched by the police. The maintenance of this representation cannot avoid seeing the Gypsy as a permanent threat. This representation of Gypsies as nomads will be crucial in all policies related to its "sedentarisation." As is well known, the concept of civilisation rests on a model of sedentary life, control of nature, and animal domestication. Civilisation presupposes a stable and predictable social structure. Nomadism comes into conflict with this system of social relations and with the way of thinking that is totally commonplace for the sedentary. Therefore, the policies "to put an end once and for all to Gypsy people" have repeatedly focused on achieving their "sendentarisation" (for example, see Asséo, 1994; Bloch, 1963; Crowe, 1994; Formoso, 1986; Kenrick & Puxon, 1974; Leblon, 1993; Liégois, 1994). Since the sixteenth century, directly

or indirectly, all legislation designed to "resolve the Gypsy issue" has focused on "sedentarising" them—for them to have a fixed home address, to exercise agriculture or sedentary occupations, to prohibit street vending from fair to fair, and to force them to take their children to school every day. The reiterated failure of these policies is not due to nomadism being a natural mental state of the Gypsy.

Gypsy nomadism represents an entire system of social relationships with the Gadje. These relationships are marked by the fact that the Gadje perceives the Gypsy as someone uncontrollable and a source of danger. This vision of the nomad is really nothing but the contrast of a sedentary mentality eager for security, which prefers those who confirm traditional norms and customs rather than bearers of other customs. The Gypsy-Gadje relationship is represented on that nomadic-sedentary dimension, and this determines two universes so different that social ties become practically impossible. Where there are no social ties, there is threat and fear. Stigmatic thought, prejudice, and discrimination are signs that there are no social ties and that it will be difficult to create any.

Stigmatic Thought When Domestication Fails

However one looks at it, the history of Gypsy minority/Gadje majority interaction is the history of the persecution of the minority (Moscovici & Pérez, 1999). The Gadje, or the power that represents them, has done everything possible for more than five centuries in all European countries without exception to domesticate the Gypsies (for example, see Bloch, 1963; Kenrick & Puxon, 1974; Leblon, 1993, Sánchez, 1986). Some examples of implemented Gypsy domestication strategies are: forcing them to change their lifestyle; prohibiting them from speaking their language; forcing them to perform only lawful jobs; forcing them to have a fixed home address; forcing them to dress like the majority of Gadjes; forcing them to reside in a specific list of towns with the prohibition to travel to others, and so on. All these Gypsy persecution measures have been accompanied by their respective punishments in case of disobedience: lashing, imprisonment, expulsion from the country, and the death penalty. Yet the failure of these measures has been obvious. One effect of this failure is that it has been transforming the representation of the Gypsy. In the end, the majority (the dominant power) falls into the belief that the Gypsy people are indomitable, ungovernable, and impossible to socialise or acculturalise. What cannot be domesticated to behave according to the norms of the majority group, what cannot be included in the "culture," ends up getting expelled to "nature." The undomesticated ends up being seen as uncivilised or savage, "from the forest," all of which invokes animal life as opposed to human culture.

There are several hints that the minority is ontologised out of the culture when the majority, after several strategies of "acculturation," fails to convert them. In a first experimental study (Pérez, Chulvi, & Alonso, 2001), it was tested how the failure of domestication on the part of the dominant power leads the majority to represent the Gypsies more with nature traits than culture traits. This study followed

a 2 × 2 factorial design and used university students as a sample. In one half of the conditions, students had to read a summary of 20 legislative measures that, over the course of five centuries, kings and governments had approved with the purpose of integrating, normalising, and converting the Gypsy's *modus vivendi* to the cultural mainstream. In the other half of conditions, the students did not read that list of legislative measures. This first variable was crossed with a second one, in which half of the participants were led to believe that the Gypsies were not yet integrated, since they had managed to maintain their own cultural and social identity. Meanwhile, the other half of participants were told that Gypsies, in general, are already integrated into the Gadjes' cultural mainstream. The results showed that, in comparison to the other three experimental conditions, in the failure of domestication condition (i.e., the condition in which participants read the legislative measures and are told that the Gypsies have not been integrated), participants qualified the Gypsies more in terms of nature (e.g., instinctive) than culture (e.g., creative). The results confirmed that when the domestication relationship does not produce the outcome that the dominant power proposed, the majority goes on to ontologise the Gypsies, to naturalise them outside the social and cultural mainstream. Vala, Lopes, and Lima (2008) resort to the concept of "ethnicism" to analyse a belief system that leads to representing social and cultural differences among groups, as if they were differences of nature. In their studies, they confirmed the hypothesis that ethnic groups can be essentialised as a kind of bio-sociological body that is passed on from one generation to another without substantial changes.

It could be said that the majority maintain their "pure body" by sending the minority out into the wilderness. The majority converts the minority into the scapegoat threat to the organic body of the majority. The more the majority represents the minority in terms of furtive animals, the more afraid the majority will be of the minority. In this manner, the danger of mixing with the minority is highlighted.

Does Threat Cause Discrimination or Does Discrimination Cause Threat?

The aforementioned considerations have led us to propose the following new hypothesis: the more persistent the prejudice and discrimination against the minority, the greater will be the threat felt by the majority. Being the perpetrator of the discrimination of the minority makes one perceive this minority as more threatening. As Stephan et al. (2016, p. 261) pointed out: "Prejudice toward outgroups would be expected to predispose ingroup members to perceive outgroups as threatening." However, to our knowledge, no research has tested this hypothesis. Stephan et al. (2016) cited multiple studies showing that the perceived real or symbolic threat breeds prejudice and discrimination against the minority. However, as they recognize at the end of their chapter, most studies on intergroup threats have employed a correlational approach.

Therefore, the complementary hypothesis that we have tried to examine is to what extent prejudice and discrimination construct the minority as a threat and not the reverse. The experiment was carried out with 89 students from the University of Valencia (Pérez & Ghosn, in preparation). Following a factorial design 2 (negative traits vs. positive traits) × 2 (making discrimination judgments vs. refraining from making discrimination judgments), one half of the participants were presented with the 16 negative traits, and the other half were presented with 16 positive traits. So as to make discriminatory judgments, participants had to carefully read the 16 traits and mark 12 traits (negative in one condition vs. positive in the other) that, in their opinion, best described Gypsies. In conditions of refraining from making discrimination judgments, participants were simply told to read the 16 traits in order to later answer some questions. In the latter condition, they were explicitly told not to mark any traits. After this experimental induction, all participants answered the same five scales used by Stephan, Ybarra, and Bachman (1999) in their study on the influence of intergroup threat and anxiety attitudes toward Cuban, Mexican, and Asian immigrants. The scales were adapted to our Spanish context, where the Gypsies were the target minority. Those scales measured *realistic threat*, *symbolic threat*, *intergroup anxiety*, *negative stereotypes*, and *attitudes of antipathy and hatred* toward Gypsies.

Following the statistical analysis of Stephan et al. (1999), a regression analysis was conducted on the answers in which the attitudes toward Gypsies were regressed on the four following predictor variables: realistic threat, symbolic threat, intergroup anxiety, and negative stereotypes. In total, these predictors accounted for 59% of the variance in attitudes toward Gypsies. The results of this analysis confirm the model of Stephan et al. (1999) about the importance of threat on attitudes toward minorities. The results show that intergroup anxiety, negative stereotypes, and realistic threat are predictor variables of attitudes toward Gypsies. These results are similar to those found by Ljujic, Vedder, and Dekker (2012).

The next issue was to analyse the effects of our experimental manipulations. The results (see Fig. 1) confirm the hypothesis that discriminating against the minority increases the perception of the minority as a threat. The feeling of threat that the Gypsies cause is higher in the condition in which the participants were involved in the negative discrimination of Gypsies by marking the 12 negative traits compared to when they had to mark 12 positive traits. Therefore, making negative discrimination judgments subsequently increases the perception of the Gypsy minority as more threatening.

One might think that it is the activation of a negative or positive image of Gypsies that induces the greater or lesser feeling of being afraid of interacting with them. However, the fact that only the interaction is significant, not the main effect of the positive or negative connotation of the attributes, suggests that the effect was produced by the act of discriminating and not by the mere activation of the negative content. In fact, it could be interpreted that the results of the other conditions also confirm the general hypothesis and are congruent with that interpretation because participants who read the list of positive traits but were not allowed to mark any of them, behaved as if they were in a condition of discrimination by omission. Similarly,

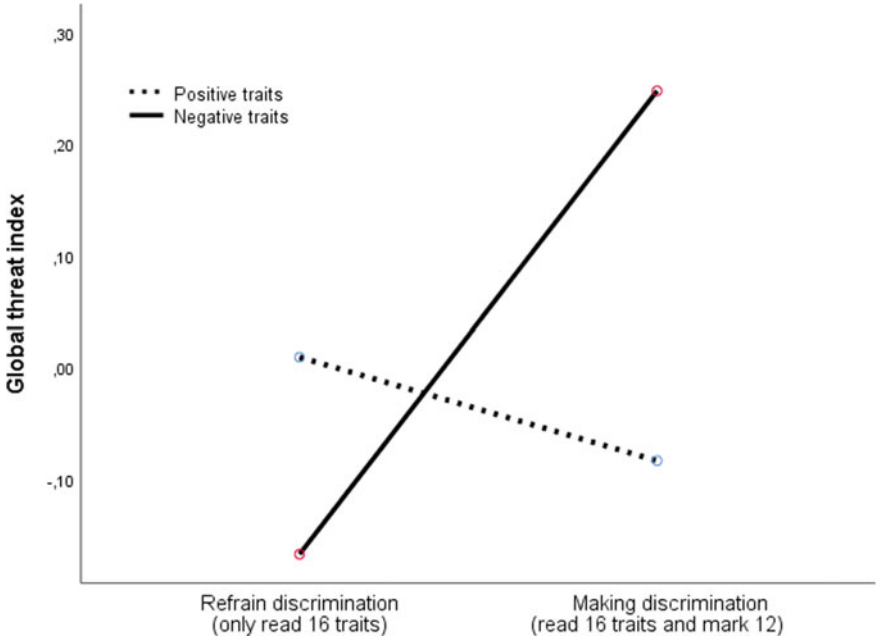

Fig. 1 Global index of threat (realistic, symbolic, anxiety, and negative stereotypes). Higher scores indicate more threat

those who read the list of 16 negative traits but were not asked to mark any attributes, also behaved as if they were avoiding discrimination by omission.

The results of the Anti-Gypsy Attitudes Index (see Fig. 2) show the same kind of difference between conditions. The attitudes are more negative in the condition in which the participants were involved in the negative discrimination of the Gypsies by pointing out 12 negative traits compared to when they had to mark 12 positive traits. The conditions in which they only had to read the list of positive traits without marking any traits (i.e., discrimination by omission) show a greater degree of anti-Gypsy attitudes than those who only had to read the list of negative traits (i.e., avoidance of discrimination by omission).

General Conclusion

The existence of a minority is usually interpreted by the majority that cohabitates with them as a real or symbolic threat. This threat is inserted into a diachronic, historical interaction that goes from the domestication of danger to the taboo of contact with the minority. Often when domestication fails, the majority turns to the stigmatic representation of the minority. An example of stigmatic representation is when the minority is ontologised as savage—that is, as an entity outside of the social

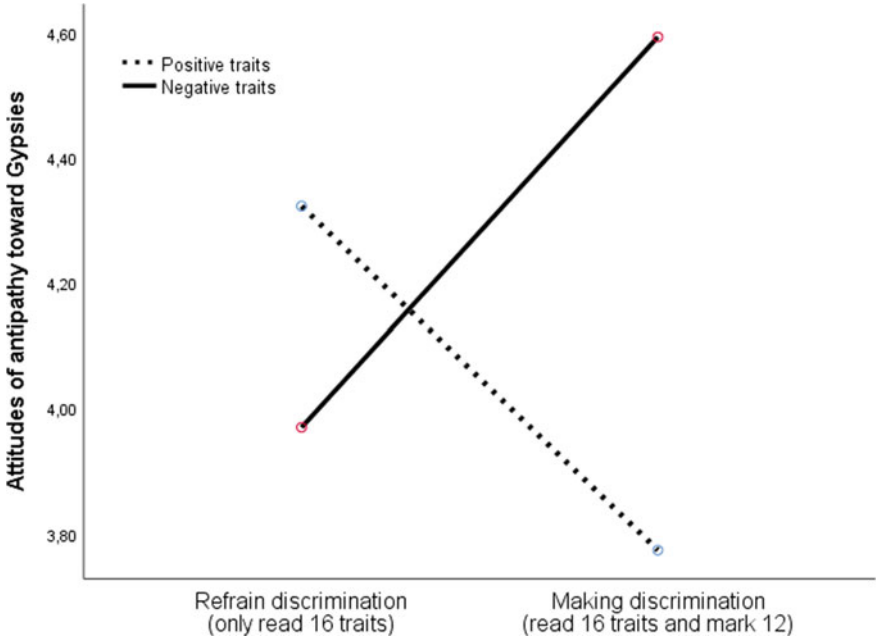

Fig. 2 Attitudes of antipathy toward Gypsies. Higher scores indicate more antipathy

and cultural mainstream of the majority. Constructing the minority as an ontology apart from the majority causes an increase in fear toward the minority. Therefore, the stigmatised ontologisation of minorities highlights the threat that the majority resents when cohabiting with them. The threat cycle continues; this form of representation in turn intensifies the discrimination, which then leads to a greater perception of threat. In this circular process, it should not be ruled out that the discrimination and persecution of the minority converts this minority into a threat due to the fear of the majority that expects eventual revenge from the persecuted minority. In this case, it is the expression of prejudice and discrimination against the minority that creates the fear of revenge from the minority. The minority that is discriminated against becomes even more threatening to the majority on either a real or an imaginary level. If the majority insults, discriminates against and rejects the minority, it is predisposed to expect an unfriendly reaction from them.

Considering that for more than five centuries Gypsies have existed as a minority in interaction and confrontation with the majority society, we have described the social construction of this minority as a threat. We have seen how the core of this threat is situated in the nomadic-sedentary dimension. There are multiple indications suggesting that nomadism is not an intrinsic characteristic of the Gypsy mentality. Rather, a socio-cognitive process of the *pars-pro-toto* is observed—with a single case, a whole category is formed. The majority focuses on particular cases that confirm the prejudice of distrust and fear and tends to generalise the prejudice to the entire

category (the entire minority). Specifically, in the case of Gypsies, the core of that *pars-pro-toto* is the existence of the nomad-in-family, which is not the same as the traveller, the emigrant, or the itinerant.

Therefore, if faced with the pressure of assimilation and uniformity the minority integrates, it is completely diluted in the majority group. In other words, if the minority ceases to exist as such, everything will end there. However, there are multiple examples of minorities that are stigmatised, marked by a sign that they cannot hide (e.g., black skin colour). We have recalled historical examples where it can be seen how the conversion of the minority does not end the majority's paranoia regarding purity (Pérez, 2018).

Finally, we have seen how we get to folk-anthropology through which certain minorities are ontologised outside the human species. In fact, they are ontologised outside what the majority represents as prototypical of the human species, which is sometimes their Christian religion (vs. Jews, heretics, or pagans), their European cultural customs (vs. the wild customs of natives), their Caucasian aesthetics (vs. the ugliness of the African monkey), the Aryan race (vs. the Alpine), the sedentary lifestyle (vs. nomadism), and so on. The relationships between the majority and the minority can, thus, be described in terms of danger and purity (Douglas, 1966). The majority will do everything possible to stay pure, that is, not to mix with the minority ontologised as wild (i.e., closer to nature than to the majority culture). Mixing with this minority is for the majority a contamination or worsening. The taboos of difference and contact underlie a whole series of daily practices and discourses with which the majority socialises its members, so that they do not mix with stigmatised minorities.

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Chapter 11
Immigrants and Refugees: From Social Disaffection to Perceived Threat

Jorge Vala and Cícero Roberto Pereira

This book is a contribution to the debate on the concept of threat within the new dynamics of contemporary European societies. It also aims to help create a field of research on threats from a perspective that can integrate and articulate contributions from various scientific fields. It is within the framework of these aims that we intend to address the specificities of the construction of immigration and refugees as a threat to European societies.

Our analysis has two stages. Firstly, we see the idea of threat attributed to social groups perceived as different as fundamental in attributing meaning to the social context when new social facts are in question and appear opaque, difficult to describe and control; producing uncertainty, insecurity and anxiety. The starting hypothesis is that the search for meaning for the new social vulnerabilities of a large majority of European citizens potentially leads to immigrants and refugees being seen as a threat. It is therefore relevant to ask to what extent immigration and refugees are seen as a threat; and what are the factors that facilitate or hinder this view.

Secondly, we aim to show how threat, once constructed, can be a factor in legitimizing individual and collective attitudes and behavior, as well as legitimizing political decisions that otherwise could not be accepted in democratic societies. The study of psycho-sociological mechanisms associated with the legitimation of social inequalities and discrimination has increased (for a review, see Costa-Lopes, Dovidio, Pereira, & Jost, 2013), and this chapter also aims to contribute to the understanding of these mechanisms within the framework of the concept of threat.

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In short, this chapter examines new hypotheses about the factors underlying the representation of immigrants and refugees as a threat, the consequences of such a perception, and its role in legitimizing discrimination and the development of anti-immigrants and refugees public policies.

Threat: A Fundamental Concept in the Social Psychology of Intergroup Relations

The hypotheses we propose are based on the assumption that the perception of threat is a fundamental factor in several basic psychological processes at the individual level. It also exists, more importantly, in intergroup relations, especially with groups perceived as "different" or with unequal social statutes.

At the intra- and inter-individual level of analysis, and without intending to be exhaustive, we recall that studies carried out in the framework of Terror Management Theory (Greenberg, Solomon, & Pyszczynski, 1997) have shown that the saliency of the idea of death constitutes a threat to the desire to live and has the potential to create psychological malaise, defensive visions of the world, and negative intergroup attitudes. Likewise, the theory of Belief in a Just World (Lerner, 1980) has shown that confrontation with situations of injustice threatens the fundamental belief that the "world is just", "that everyone gets what they deserve and deserve what they get". This triggers attempts to reestablish such beliefs that go through the denial of injustice and the victims of injustice being negatively evaluated (Correia & Vala, 2003). Another important example is the Stereotype Threat Theory (Steele & Aronson, 1995), according to which a negative group stereotype in a given area may threaten the ability of the group's members to perform tasks related to that area.

In the domain of intergroup relations, threat is studied as a feeling arising from the perception that the "action of a group, its beliefs or characteristics are opposed to the achievement of the goals or well-being of another group" (Riek, Mania, & Gaertner, 2006, p. 336). This approach was developed from the Realistic Group Conflict Theory proposed by Sherif and Sherif (1953), whose central argument derives from the salience of competition for scarce resources. Moreover, in his "Group Position Model", Blumer (1958) places inequality of status and the perception by a dominant group that the dominated group threatens their status, power or means of subsistence (see Bobo, 1999) at the center of conflicts between groups (particularly those occurring in racialized social relations).

However, the feeling of intergroup threat may occur not only in terms of material resources, but also in the symbolic plane of the values and beliefs that shape group identities. Following the studies of Kinder and Sears (1981) on symbolic racism, several authors analyzed the role of perceived cultural threat in new approaches to contemporary racism. Along the same lines, the relationship between threat, perceived difference, and similarity of beliefs in intergroup relations was greatly boosted by the expansion of Social Identity Theory (Tajfel & Turner, 1986). However, within the framework of this theory, there is the perception that the ingroup and outgroup are

very close in terms of beliefs that threaten the ingroup, which thus triggers strategies aimed at promoting its distinctiveness in relation to an outgroup. In other words, the more people identify with their ingroup, the more likely they are to be concerned about preserving what they consider to be the ingroup culture. From another theoretical perspective—the ontologization of minorities—it has also been observed that minorities are more ontologized in contexts that threaten the anthropological differentiation of majorities (Perez, Moscovici, & Chulvi, 2007).

In the revising of the Intergroup Threat Theory, Stephan, Ybarra, and Rios (2015) proposed that it is possible to reduce intergroup threat conceptually to two major types: symbolic threat (involving group identities, their beliefs and values), and realistic threat (which includes competition for resources, power and threat to the physical security of the group), a perspective that has been widely followed in the literature on intergroup threat (for a discussion see Roebroeck & Guimond, 2017; Verkuyten, 2017). It should be noted that while the model of Stephan and colleagues (2015), and the majority of research in this area (e.g. Schlueter, Schmidt, & Wagner, 2008), considers threat as one of the antecedents of prejudice, we have shown in both correlational (e.g. Pereira, Vala, & Costa-Lopes, 2010) and experimental studies (e.g. Pereira, Alvaro, & Vala, 2018) that threat perception is also a consequence of racial prejudice or racism (Ramos, Pereira, & Vala, in press; Vala, Ramos, & Pereira, 2006).

Social Disaffection, Meaning Making and the Building of a Source of Threat

We know that immigration to European countries has grown significantly since the beginning of the century, and that the so-called refugee crisis brought around one million people into Europe in 2015. Since then, there has been a sharp decrease in the influx of immigrants and refugees to Europe.[1] Beyond this, empirical research has shown that in European countries, when considered as a whole, the percentage of immigrants is not a fundamental factor in explaining the negative attitudes towards this group of people. In fact, these were the results obtained when representative samples and "multilevel statistical models" were used (Ramos, 2011; Ramos, Pereira, & Vala, 2016; Quillian, 1995; Scheepers, Gijsberts, & Coenders, 2002). On the other hand, statistical data supports the evidence that immigration has contributed to economic growth and responds to economic needs in European countries.[2] If negative attitudes towards immigration do not, therefore, depend on the number of immigrants and cannot be justified by the non-necessity of immigration, how can we explain negative attitudes towards immigration and refugees? In this paper, we go beyond economic and socio-positional explanations and propose looking for the origin of these attitudes in psychosocial factors.

[1] For a discussion, see https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Statistics_on_authorisations_for_non-EU_citizens_to_reside_and_work_in_the_EU.

[2] See https://news.cnrs.fr/articles/the-beneficial-effect-of-migration-on-the-economy.

We will analyze the hypothesis that the process of assigning meaning to new negative and unintelligible social realities characterizing the current social climate may be the basis of the association between immigration, refugees and threat. We live in a time of uncertainty, psychological instability and anguish generated by degradation of public policies. We know that in Europe both trust in public institutions and the feeling of control over these institutions has dropped. Global wealth has grown in recent decades but, contrary to the expectation that such growth would lead to more inclusive and less unequal societies, we have witnessed the growth of social inequalities and the degradation of the Welfare State. This state of diffuse malaise has led some authors to deepen their conceptualization. For instance, on the basis of a transnational study, Teymoori et al. (2016) have revisited the concept of anomie (Durkheim, 1893/1999), proposing that in today's societies it may have two dimensions: "a perceived breakdown in social fabric (i.e. disintegration as lack of trust and erosion of moral standards; and a perceived breakdown in leadership (i.e. a deregulation as lack of legitimation and effectiveness of leadership" (p. 1). Although these two dimensions are reflected in the diffuse social malaise described above, the concept of "social disaffection" is closer to our approach and offers the advantage of avoiding both the complexity of the anomie concept and the description of European societies as anomic. The concept of social disaffection was coined by Katz, Gutek, and Barton (1977) to refer a set of beliefs and feelings about society and personal life shared by socially discriminated groups. The term was later taken up in the field of political analysis to refer specifically to the lack of confidence in the political processes, politicians, and democratic institutions: a phenomenon that is occurring in European countries (e.g. van Vessel, 2010). In our study, social disaffection will be used broadly to describe an articulated set of perceptions and feelings that are transversal to different sectors of society and encompass the functioning of society as a whole (Katz et al., 1977). In social disaffection, the feeling of dissatisfaction with life, the perception of lack of control and distrust of nuclear institutions of the social system are central features.

We propose that in the current social climate, people will be motivated to reduce uncertainty through the creation of an accurate-enough shared social understanding (Fiske, 2009), or through the creation of social representations or common meaning that make the unfamiliar familiar and the unknown known (Moscovici, 1984). Reducing uncertainty through the search for a common meaning for critical social situations may lead to collective self-blame based on belief in a just world (e.g. Correia, Pereira, & Vala, 2018; Lerner, 1980); or to the involvement in social movements based on perceived injustice, feeling of control and social identity (van Zomeren, Postmes, & Spears, 2008). It may even lead to the identification of scapegoats as was the case, for example, with the Jews in the European past and in the USA with black people (Hovland & Sears, 1940). It is in this context that we suggest that the search to find meaning for new social realities that appear unintelligible and generate social disaffection may lead immigrants and refugees to be represented as a threat to social wellbeing. Indeed, in parallel with the traditional frustration-aggression theories, Rothschild, Landau, Sullivan, and Keefer (2012) have proposed a model in which scapegoating is considered as a process to restore control over a negative

situation that people feel is beyond their ability to explain. Within the framework of this hypothesis, we consider it understandable that immigrants and refugees are perceived as a threat to individual and collective life projects, particularly by those experiencing a sense of social disaffection.

This hypothesis is plausible since the association between immigration and social and institutional crisis in European societies is clear to see through the media and virtual social networks. More importantly, immigration and refugees support are seen as incompatible with the response to the social needs of national populations and national security by far-right leaders as, for example, in France. This position is made extremely clear in Marine Le Pen's statement: "The idea of irresponsibly welcoming thousands of immigrants, while leaving people without a 'fixed abode' is an idea that revolts me".[3] This position was also a core argument in mobilizing British citizens to vote for Brexit. The vision of immigration as an invasion and threat is also central to the right-wing and far right parties currently governing Italy, the Czech Republic, Poland, Austria and Hungary. Another exemplary case of this strategy in political struggle and mobilization is how Donald Trump has associated a sense of risk and insecurity with immigration. But this mobilization against immigrants in the name of defending security and national identity is not new. It has, in fact, been a progressive process as shown by the positions of Huntington in his 1996 work, *The Clash of Civilizations* and later, in 2004, in a work on the challenge that immigration would represent to the *American Creed*.

It is therefore probable that in this social climate and due to psychosocial factors (dissatisfaction with life, institutional distrust, feeling of lack of control, which we define as social disaffection) a significant number of Europeans consider immigrants as a threat, building an understandable and therefore more controllable world through the identification of a scapegoat and consequent anti-immigration attitudes and behavior.

Expressions of Threat Perception

To describe European attitudes towards immigrants[4] and refugees,[5] as well as the levels of threat perception,[6] we used data from random and representative samples

[3] RTL, 16th January 2017; Le Monde Diplomatique, November, 2018.

[4] Two indicators of opposition to immigration were used: "to what extent do you think [country] should allow people of a different race or ethnic group from most [country] people to come and live here?"; "How about people from the poorer countries outside Europe?" Response scale: from 1 (Allow many) to 4 (Allow none).

[5] Negative attitudes towards refugees: e.g. "The government should be generous in judging people's applications for refugee status" (reversed); "Most applicants for refugee status aren't in real fear of persecution in their own countries". Individuals' answers were recoded so as to vary from 1 (more positive) to 5 (more negative attitude).

[6] Indicators of threat perception: Economic Threat (e.g. "Would you say it is generally bad or good for [country]'s economy that people come to live here from other countries?"); Cultural

of the European Social Survey (ESS) in the 2002/3 (ESS1) and 2016/2017 (ESS8) rounds.[7] For reasons of comparison, we considered only the countries that participated in these two rounds. This procedure allowed us to analyze the evolution of the feeling of threat over a 15 year interval in 19 European countries.

The ESS8 (2016/2017) data shows that the level of opposition to immigration in Europe is not as high as[8] that one can infer from right-wing and extreme right parties messages, although it does reach a significant value. This is expressed by about a third of the respondents, both with regard to refugees (36%) and immigrants (38%). Similar values were obtained for perceptions of economic threat (34%), security (35%) and cultural identity (31%). Focusing now on the analysis of threat perceptions from a longitudinal perspective, we can see that, in the analyzed countries as a whole, threat perception has changed little over the last 15 years. The perceived economic threat has declined, albeit slightly (4%).[9] The perceived threat to cultural identity in 2016/2017 increased by about 3% in relation to 2002/2003. The security threat has also increased more sharply: 17% in the 15 year interval.

We have also observed extreme variability in the perception of threat in the different European countries, which will be better understood after future studies. On average, however, we found that the perceived threat to security was that which increased most in European countries. A further observation is that the growth in perceived threat has consistently occurred in those countries whose governments are now more authoritarian (e.g. Hungary and the Czech Republic), as well as those governed by coalitions including extreme right-wing parties (Austria and Italy).

Factors Associated with the Expression of Perceived Threat Posed by Immigrants and Refugees

In our previous studies on the antecedents of perceived threat associated with "people coming to live here" (Vala, Pereira, & Ramos, 2006), we have shown that the perceived threat was significantly higher among individuals adhering to power rather than universalist values (in Schwartz's view, 1992); by those who set themselves more to the right than to the left in terms of political orientation; and by those who express more racial prejudice. Significantly, the effect of these factors has been shown to be considerably more important than those of education, household income, and

Threat ("would you say that [country]'s cultural life is generally undermined or enriched by people coming to live here from other countries?"); Security Threat ("Is [country] made a worse or a better place to live by people coming to live here from other countries?"). Response scale: from 0 (low threat) to 10 (high threat perception).

[7] https://www.europeansocialsurvey.org/data/.

[8] Percentages refer to the number of people that scored above the middle point of the scales.

[9] Changing ratio: (ESS8 − ESS1)/ESS1 * 100. Response scale varies from 0 to 10, consequently the changing ratio indicates the variation of the threat perception mean from ESS1 to ESS8, i.e., a period of 15 years.

income satisfaction. In other words, the sense of threat was more associated with psychosocial factors than with the indicators of the respondent's position in the social structure.

In 2016, using a longitudinal perspective, we analyzed all five first rounds of the European Social Survey (Ramos, Pereira, & Vala, 2016) and showed that adherence to conservative rather than universalistic values consistently strengthened the expression of the sense of threat. Again, adherence to values proved to be a better threat predictor than the classic socio-positional descriptors. This study also showed that the percentage of immigrants in the various countries was not a significant variable in explaining the perception of threat (see also, Ramos, 2011).

In this new study,[10] based on ESS 8 (2016/2017)[11] data, we therefore hypothesize again that the value of universalism[12] as opposed to that of power will be a more important predictor of threat than the socio-positional variables. With regard to our previous research, and considering the current political debates, we have introduced the concept of exclusive national identity as a potentially explanatory factor of threat perceptions. The concept of exclusive national identity is based on the hypothesis that the lower salience of *superordinate identification* levels may hinder negative intergroup relations. Thus, we hypothesize that the greater the identification with the country relative to identification with Europe, the more exclusive will be national identity and, consequently, the negative attitudes towards immigrants and refugees will be stronger.

More importantly, our main hypothesis in this research concerns the role played by social disaffection in constructing the association between immigrants, refugees and threat perception. As stated above, social disaffection involves dissatisfaction with life; a sense of absence of control; a negative evaluation of the political system; and institutional distrust.[13]

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[10] The data partially presented here refers to ongoing research about threat perception, social disaffection and socio-structural and individual factors (Pereira, Ramos & Vala, in prep.).

[11] Data from 32,464 individuals were analyzed. This number did not include respondents who were not nationals or who were not born in the country where the survey was carried out.

[12] Indicators: of Universalism: "He\she thinks it is important that every person in the world should be treated equally; He\she believes everyone should have equal opportunities in life"; "It is important to him\her to listen to people who are different from him\her. Even when he\she disagrees with them, he\she still wants to understand them"). Power: "It is important to him\her to be rich. He\she wants to have a lot of money and expensive things"; "It is important to him\her to get respect from others. He wants people to do what he\she says").

[13] The following items were used to operationalize the feeling of social disaffection—*Perception of Wellbeing*: "Taking all things together, how happy would you say you are?", "All things considered, how satisfied are you with your life as a whole nowadays?"; *Satisfaction with Democracy*: "how satisfied are you with the way democracy works in [country]?"; *Satisfaction with Economy*: "On the whole how satisfied are you with the present state of the economy in [country]?"; *Satisfaction with Government Performance*: "Now thinking about the [country] government, how satisfied are you with the way it is doing its job?", "Now, using this card, please say what you think overall about the state of education in [country] nowadays?", "Still using this card, please say what you think overall about the state of health services in [country] nowadays?"; *Perception of Controlling the political system*: "How much would you say the political system in [country] allows people like you to have a say in what the government does?", "And how much would you say that the political system in

To test our hypotheses, we estimated three hierarchical regression models (one for each type of perceived threat), in which we analyzed the impact of the classic positional explanatory factors (income, gender, age, schooling, and left-right political orientation); adhesion to power rather than universalistic values, as well as adding the two new psychosocial factors we have mentioned above: exclusive national identity and the feeling of social disaffection. The results indicated that the first set of factors (the classic positional ones) explain 12% of economic and security threats and 14% of the cultural threat. Adding the values to the second model significantly increases the understanding of these threats, with the model now explaining the economic threat as 14%, security as 15%, and the cultural threat as 17%.

The addition of exclusive national identity also contributes to increasing the explanatory power of the model to, respectively, 18, 20 and 21%. Of greater importance, when considering the impact of social disaffection, is that the threat explanation percentages increase substantially, so that the final model accounts for 24% of the economic threat, 27% of the security threat, and 26% of the cultural threat. This is more than double what would have been explained if we had only considered the classic positional factors.

Figure 1 impressively presents the strength of the relationship between the explanatory variables and each type of perceived threat obtained in the estimated final model. Firstly, we observe that the classic socio-positional factors are related to the three types of threat. However, the strength of this relationship is less than that of the psychosocial variables, especially the feeling of social disaffection. Secondly, the factors that contribute to increasing the sense of threat are the more right-wing political positioning, the more exclusive national identity and, especially, the sense of social disaffection. This means that the stronger the social disaffection, the greater the perceived threat and that this occurs in the respondents of each of the positional segments represented by the socio-positional factors, since the observed relationships are verified over and above the predictive power of these factors. Finally, the factors that attenuate perceived threat are the subjective income, the respondent's educational level and, mainly, their adhesion to universalistic rather than power values. In other words, the more respondents value universalism rather than power, the more their perception of each type of threat is reduced.

The Legitimizing Role of Threat Perception

We have proposed that threat perception allows people to consider various forms of discrimination as just, legitimate and necessary (Pereira, Vala, & Leyens, 2009). In fact, the problem of legitimation has become the object of systematic empirical

[country] allows people like you to have an influence on politics?"); *Institutional trust*: "country]'s parliament?", "the legal system?", "the police?", "politicians?", "political parties?"). We factor analyzed these indicators which loaded on a single factor that fits the concept of social disaffection proposed by Katz and collaborates (1977) very well. However, contrary to the hypothesis of Katz et al. (1977), the variable exclusive identity, a proxy of nationalism, doesn't load on this factor.

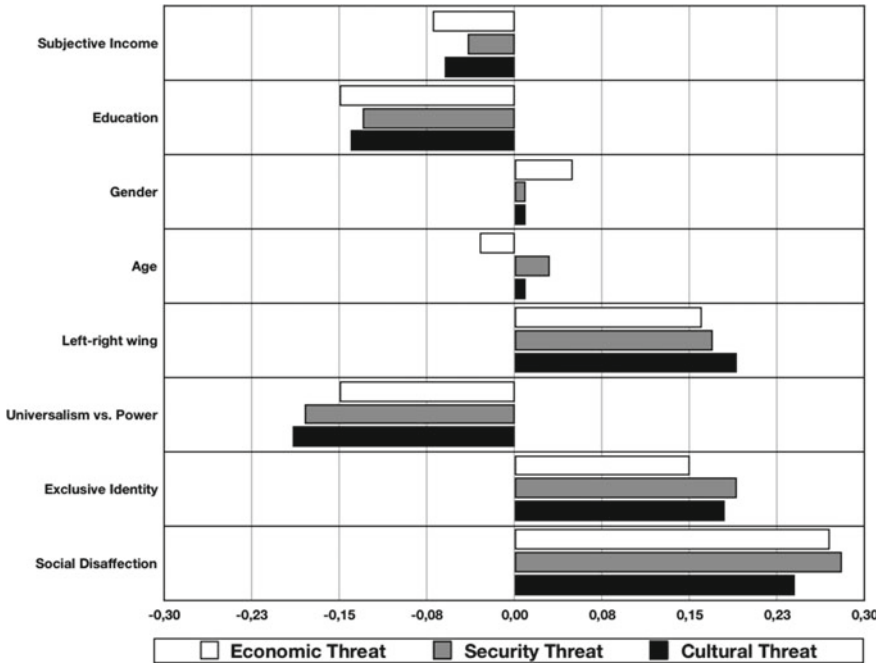

Fig. 1 Bars depicting the standardized regression coefficients of predictors of the three types of threat perceptions (final regression models)

study in recent years, due in particular to the changes that have taken place in the institutional environment of democratic societies. In these societies, it is the idea of legitimacy that allows social actions to be seen as just and, in the context of the individual-society relationship, the pressure for legitimation implies that individuals need to justify their behavior so that it is perceived as just, even though, objectively, the meaning and consequences of their actions may be unfair.

In the framework of social psychology, the problem of legitimacy as a central factor in explaining social behavior has been approached through several theoretical models (for a review see Costa-Lopes et al., 2013; Major & Kaiser, 2017; Tyler, 2006), specifically by the Justified Discrimination Model (e.g., Pereira et al., 2010). Indeed, research inspired by this model has shown that the infra-humanization of a social group facilitates discrimination against it, and that this process is mediated by the perception that the infra-humanized group (Leyens et al., 2000) constitutes a threat to the European cultural matrix (Pereira et al., 2009). In another series of studies, using data representative of 21 European countries, it has been shown that the relationship between prejudice and opposition to immigration is mediated by the perception that immigrants are a threat; and that opposition to immigrants' naturalization is mediated by the perception that they constitute a threat to the culture of European countries (Pereira et al., 2010). Threat perception also legitimizes the adoption of 'ethnic' policies in the selection of immigrants (Ramos et al., in press). In

addition, with a highly practical impact, threat perception associated with immigrants has been shown to legitimize their discrimination by health professionals in hospitals (Madeira, Pereira, Gama, & Dias, 2018).

In line with the above-mentioned research and its underlying theory, we formulated a new question: will threat perception also legitimize the impact of social disaffection on building negative attitudes toward refugees arriving in Europe? We thus not only posit that the sense of social disaffection has an impact on negative attitudes towards refugees, but that it also has an impact on the perception that refugees pose a threat to Europeans. Finally, we also propose the hypothesis that the impact of social disaffection on anti-refugee attitudes is mediated by different types of perceived threat meaning that threat legitimizes that negative attitude. In this sense, the legitimacy of anti-refugee attitudes derives from the perception that such negative attitudes are not due to factors internal to the authors of the judgement but to characteristics of the target (perpetrators of threat).

The results obtained, summarized in Fig. 2, support our hypotheses: the stronger the sense of social disaffection, the more Europeans express a perceived threat regarding refugees. It then follows that the greater the perceived threat, the more strongly negative attitudes towards refugees are expressed. It was also verified that the direct effect of social disaffection on anti-refugee attitudes is significantly reduced when threat perceptions are introduced in the model, i.e. the impact of social disaffection on anti-refugee attitudes is mediated by different types of perceived threat. Therefore many respondents do not understand their attitudes as arising from internal factors

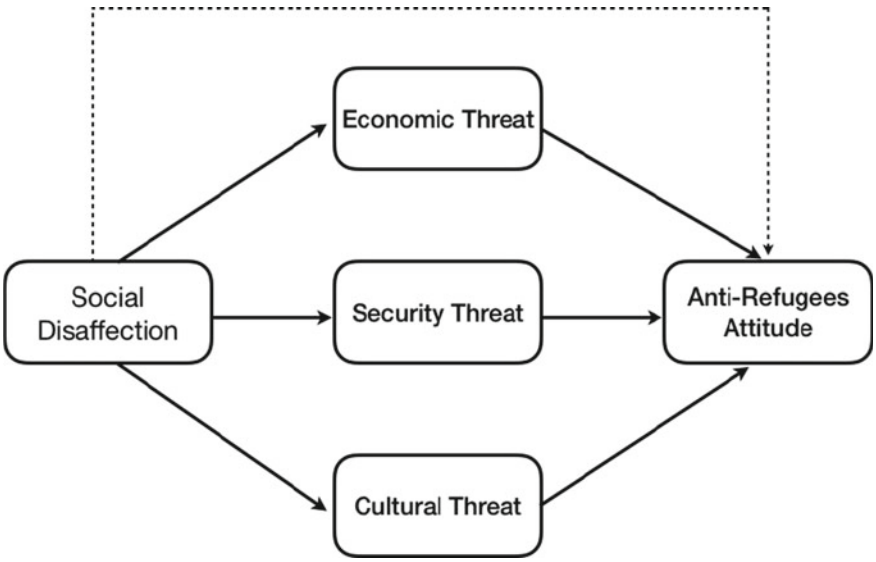

Fig. 2 Analytical model representing the relationship between social disaffection and negative attitude towards refugees, mediated by threat perceptions

(the feeling of social disaffection), but rather from the threat that refugees themselves pose to host societies,[14] legitimizing anti-refugee attitudes.

Conclusions

This chapter aimed to contribute to the discussion of how the concept of threat features in understanding the dynamics of European societies today. Specifically, we have shown how anti-immigration and anti-refugee attitudes rely on the perception that they represent a strong threat to European security, to economic development and to cultural identity that supposedly defines the specificity of Europeans. This perceived threat, shared by many European citizens, occurs in an institutional and political context where immigrants are presented as a danger not only by extreme right-wing and right-wing parties but also by many media messages and even by academic sectors. The successful book by journalist Murray (2017) illustrates the perception that "white and Christian" Europe is in "mortal danger" due to immigration very well. Similarly, Lewis's (2002) work on the Middle East is a sophisticated example of the rising of the representation of Islam as a threat: the Islamic treat to the West would represent an inadequate response to the failure of today's Islamic societies, who see in the West the "cause of their disaster".

The results and the theorizing presented in this chapter regarding the relationship between threat, immigration and refugees could contribute to the enlargement of the scope of previous research. Studies demonstrating the positive effect played by the salience of universalism compared to the salience of power as a social value on attitudes towards immigration and refugees were replicated: the more respondents expressed greater salience of universalism than of power, the less they expressed threat. Moreover, and despite the European project crisis, it was shown that the more salient the national identification was when compared with European identification, the greater was the threat attributed to immigrants and refugees. More importantly, our approach introduced a new factor in the literature on the genesis of perceiving the existential threat posed by immigrants and refugees. This approach was based on a path starting from the feeling of social disaffection and the search for meaning and control perception elicited by that sentiment in order to arrive at the perception of immigrants and refugees as a source of threat. In other words, the perception of immigrants and refugees objectifies the feeling of social disaffection, giving it meaning and presenting an answer to the questions about the origin of the current social malaise. Finally, the representation of refugees as an existential threat legitimizes negative and discriminatory attitudes towards them. This aspect is crucial

[14] Regarding the mediation analyses, we followed the recommendations recently proposed by Judd and Kenny (2013). We therefore estimated the effect of social disaffection on anti-refugee attitudes, which was reduced significantly after introducing the threat perceptions as mediators in the model. We then calculated 95% confidence intervals for the mediating effects by using the bootstrapping method with 5000 resampling, which proved to be reliable for each type of threat.

for the balanced functioning of democratic societies because it justifies how anti-refugee and anti-immigration attitudes are seen as fair and appropriate and do not question individual and institutional concerns about equality, fairness and the quality of democracy. Those attitudes are, in fact, perceived as being based on the properties of their target (immigrants and refugees) and not on internal factors characterizing the percipient or on the aims of the institutional power.

If our approach presents new contributions to the study of threat in the context of migrations, some limitations should be underlined. In fact, our study of social threats was carried out in the specific domain of intergroup relations and started from a concept of threat created for this area of social life. In future studies, it will be important to articulate the relevance and meaning of threat in intergroup relations with broader levels of societal analysis (Jodelet, 2017). In the same vein, the study of the social amplification of threat processes, from a similar perspective to that used on the research about risk (Breakwell, 2007), will also be important in deepening our understanding of the impact of threat in reaction to immigration. Moreover, although immigrants and refugees both fall into the category of an "Other" that potentially frustrates the existential objectives of a "We", it will be important to distinguish specific processes associated with how each of these groups and their respective subgroups are represented (Kraut-Gruber & Drosda-Senkowska, 2017).

Having been demonstrated the fundamental role that, in empirical terms, the sense of social disaffection seems to play in the construction of a feeling of threat associated with immigration and in the legitimization of inequalities, it is now important to improve its theoretical development. In addition, it will be essential to know more about the origins of the feeling of social disaffection, adopting a perspective that integrates and contemplates not only socio-psychological factors, but also socio-structural ones and that specifically includes the impacts of the new social media.

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Part III
Confronting Threats in the Public Sphere: Refusal, Change, Action

Chapter 12
Climate Change in the XXIst and Following Centuries: A Risk or a Threat?

Filipe Duarte Santos

To address the short, medium and long terms challenges, risks and threats of anthropogenic climate change, it is essential to have a temporal perspective. This chapter, therefore, begins with a brief historical introduction on how societies have developed, perceived and reacted to the science of climate change up to the present and how they see the future. The definitions and methodological tools necessary to attempt to answer the question that has been formulated are then established. Finally, a discussion of the answer to that question is presented.

A Brief History of Climate Change Science and of the Evolving Attitudes Towards It

The first definition of the greenhouse effect was formulated in two articles by the mathematician and physicist Joseph Fourier (1768–1830) (Fourier, 1824, 1827). John Tyndal (1820–1893) in 1863 (Tyndal, 1863) proved that among the gases that constitute the air, water vapour (H_2O), carbon dioxide (CO_2) and methane (CH_4) are greenhouse gases. Svante Arrhenius (1859–1927), about 30 years after, realized that the emission of CO_2 from the intensive use of fossil fuels increases the average global temperature of the atmosphere and estimated for the first time that it would increase between 5 and 6 °C with a duplication of the atmospheric CO_2 concentration (Arrhenius, 1896).

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At the end of the 19th century anthropogenic climate change was fundamentally understood. There was, of course, much more to be analysed and learned about its impacts and future evolution in the following decades, but the basic science of climate change had been established and was consensual in the scientific community. The situation changed deeply in the 20th century, especially from the 1970s onwards.

In 1965, a report by the Presidential Science Advisory Committee in the USA acknowledged the risks of climate change caused by growing global CO_2 emissions from burning fossil fuels and suggested, as a response, the adoption of "countervailing climatic changes" able to offset and perhaps cancel out the effects of the former (PSAC, 1965). Specifically, it suggested spreading floating particles in the ocean that reflect solar radiation and increase the Earth's albedo by roughly 1% with an annual cost estimated at $500 million. This proposal is one of the earliest examples of a geoengineering technological fix for climate change. The official position of the USA and its governmental institutions, since the beginning of the 20th century, has been to view the use of fossil fuels as unquestionable and irreversible since it provides abundant energy at affordable prices thereby making a powerful contribution to economic growth. Furthermore, it became emblematic of the country's power. Geoengineering is presently assumed to be one of the responses to climate change besides mitigation and adaptation. It can be defined as "deliberately manipulating physical, chemical, or biological aspects of the Earth system", with the aim of neutralising the consequences of growing greenhouse gas emissions (AMS, 2009). There are fundamentally two types of climate geoengineering. One is called Carbon Dioxide Removal (CDR) or negative emissions, the aim of which is to remove CO_2 directly from the atmosphere using natural sinks or chemical engineering processes (IPCC, 2012). The other type is called Solar Radiation Management (SRM) or albedo modification, which consists of purposely modifying the energy balance in the atmosphere in order to reduce or cancel out some of the physical impacts of climate change (IPCC, 2012).

Beginning in the late 1970s and throughout the 1980s, the Exxon oil company produced pioneer climate change research work and was fully aware of the risks from increasing CO_2 emissions. In July 1977, James Black (1919–1988), the Scientific Advisor in the Products Research Division of Exxon Research & Engineering, told Exxon's Management Committee that "there is general scientific agreement that the most likely manner in which mankind is influencing the global climate is through carbon dioxide release from the burning of fossil fuels" (Black, 1978). Furthermore, he concluded at the time that "man has a time window of five to ten years before the need for hard decisions regarding changes in energy strategies might become critical" (Banerjee, 2015). Edward E. David, president of Exxon Research and Engineering stated in 1982 that "few people doubt that the world has entered an energy transition away from dependence upon fossil fuels and toward some mix of renewable resources that will not pose problems of CO_2 accumulation" (David, 1984). The only question, he said, was how fast this would happen.

The 1980s were marked by decisive events. The first was that while in the period from the 1940s to the 1970s the global average temperature was approximately constant mainly because of the cooling effect of SO_2 aerosols due to the increasing industrialisation in the northern hemisphere following World War II; in the 1980s,

global warming became quite noticeable. The global average temperature in 1988 was the highest in 130 years of global temperature records and continued the 1980s' streak of hot years. James Hansen, a well-known climate scientist from NASA, told the USA Senate Committee on Energy and Natural Resources on 23rd June, 1988, that "we can state with about 99% confidence that current temperatures represent a real warming trend rather than a chance fluctuation over the 30-year period", and also that "the global warming is now large enough that we can ascribe with a high degree of confidence a cause and effect relationship to the greenhouse effect" (Hansen, 1988).

The second event was the serious surplus of oil caused by falling demand following the crisis that resulted from the Yom Kipur Arab-Israeli war of 1973 and the Iranian revolution of 1979. Oil prices collapsed and Exxon had to cut its staff deeply to save money, including many working on climate. How to deal with an emerging public and governmental awareness of climate change that would likely accelerate a federally regulated energy transition away from fossil fuels at a time of decreasing profits? The answer that Exxon found to this question was to amplify the uncertainty and promote manufactured controversy and doubt about the conclusions of climate change science. This process was conducted with a very strong commitment and efficacy and included the funding of organizations such as the Global Climate Coalition, formed by some of the largest world companies that were major producers and users of fossil fuels. The objective was to prevent federal government initiatives to decrease CO_2 emissions from fossil fuel use and to preclude the implementation of an energy transition. It is likely that the climate change denial performance benefited from the knowledge gained by Exxon in its climate research unit, since it is easier to deny scientific conclusions effectively if one is well informed and understands the underlying science.

Lee Raymond, who became CEO of Exxon in 1993 said at a meeting of the Economic Club of Detroit in 1996 that "currently, the scientific evidence is inconclusive as to whether human activities are having a significant role in the global climate". To a more international audience at the World Petroleum Congress in Beijing in October 1997, he said that "It is highly unlikely that the temperature in the middle of the next century will be significantly affected whether [climate mitigation] policies are enacted now or 20 years from now." He also addressed the alternatives to fossil fuels and advised the developing countries not to make an energy transition because it would endanger their economic growth. In fact, he urged developing countries to resist implementing mitigation policies saying that "before we make choices about global climate policies, we need an open debate on the science, an analysis of the risks, and a careful consideration of the costs and benefits. So far this has not taken place and until it has, I hope that the governments of this region will work with us to resist policies that could strangle economic growth".

It was only in 2007 that ExxonMobil dared to officially disclose to shareholders the risks that climate change posed to profitability. Nevertheless, the acknowledgement was made in an almost cryptic form possibly to lighten the surprise of the negationist shareholders and to lessen the impact on the others. Rex Tillerson, ExxonMobil CEO from 2006 to 2017, stated in 2007 that there was no significant alternative to oil in

the coming decades, and that ExxonMobil would continue to make petroleum and natural gas its primary products. If the recent past is an indication of what the future is going to be, then the ExxonMobil shareholders have very a good reason to be optimistic. A $10,000 investment in the company's share at the end of the 1990s is worth about $60,000 today, which represents an annual return of about 9% (Le Vine, 2018).

The letters exchanged between The UK Royal Academy and ExxonMobil in 2006 (TRS, 2006) clearly reveal the oil company's evolving position towards the science of climate change. Since 2015, various organizations have requested investigations by the USA Attorney General and by the Attorney General of the States of California, Massachusetts and New York into whether ExxonMobil lied to the public or to shareholders about the risk from climate change and, in particular, the risk to its business. ExxonMobil is defending itself with all the means and power it has, so the cases are likely to be protracted legal battles. But the corporation is unsure that it can prevent all lawsuits from eventually forcing it to pay billions of dollars in climate damage its leadership has already caused. To try to mitigate this risk, ExxonMobil announced recently that it will give $1 million to America for Carbon Dividends: a group that supports a tax on carbon emissions and returns the invested money to Americans in refunds.

The story about the way Exxon dealt with the climate change issue is both a metaphor and a proxy for the way the world is dealing with it at the global level. The main reason for this paradigmatic role is the success of ExxonMobil's strategy to slow down the world's mitigation policies (van den Hove, 2002).

Climate change science, including adaptation and mitigation studies, produces results following the methodology of science, which are published in peer review journals. This process helps to perceive the risks and solutions to climate change, but it is often said that advances depend on concrete and practical solutions that can be processed into the political field. The point is that these practical solutions and the way to implement them in the political field have been addressed and are well known in the natural and social science domains, but there is a huge resistance from vested interests, especially in the energy sector, that use all means available, including false science and demonstrable falsehoods, to discredit those solutions and to convince people that an energy transition will jeopardize economic growth. Who wants to increase the risk of becoming poorer in a time with so many short term uncertainties, such as slow economic growth, unemployment, migratory movements and terrorism?

The multilateral process through the United Nations is theoretically the right and possibly the only way available at present to address the problem of global climate change, but its efficacy is very low. Reaching the Paris agreement was indeed a morally admirable and emotional moment of human solidarity and cooperation. The chances of implementing the 2 °C objective, however, let alone the 1.5 °C provision, depend on a complex system of competing economic, financial and geopolitical interests that are way beyond the reach of the United Nations Framework Convention on Climate Change (UNFCCC). The mobilization and the hope that the Paris agreement brought about are very important and should not be minimized, but one should

be aware of how far away the world is from creating the global political, financial, economic and technological conditions necessary to fulfil the 2 °C objective. Many influential economists and politicians advocate that presently it is simply not possible to create such conditions.

One of them is Ted Nordhaus who, in a recent article, said that the 2 °C goal is counter-productive because it is a fiction that harms both mitigation and adaptation (Nordhaus, 2018). In the same article, he boasts about the success of the fossil fuel industry saying that: "Almost 30 years after the UN established the two-degree threshold, over 80% of the world's energy still comes from fossil fuels, a share that has remained largely unchanged since the early 1990s. Global emissions and atmospheric concentrations of carbon dioxide continue to rise. Climate policy, at both international and national levels, has had little impact on their trajectory." Furthermore, he says that "Fossil fuels continue to bring substantial benefit to most people around the world, despite the significant environmental consequences. The alternatives have improved, but not sufficiently to displace fossil energy at scales that would be consistent with stabilizing temperatures at the two-degree threshold. The consequences of failing to do so for human societies are too uncertain or too far off in the future to motivate either a World War II–style mobilization to deploy renewable energy or a global price on carbon high enough to rapidly cut emissions" (Nordhaus, 2018).

Nordhaus is right about the success of the strategy of the fossil fuel industry that has made it possible to provide about 80% of the global primary energy supply since 1990. One of the reasons for the success were the technological breakthroughs that allowed for the development of what's termed extreme energy, namely to extract oil and gas from shale, and oil from tar sands, deepwater and ultra-deepwater offshore wells. Another factor was the inertia of the energy sector towards an energy transition, enhanced by the different business model of renewable energies. Finally, the industry benefited from promoting the perception among business, governments, shareholders, and people in general that exploring and consuming fossil fuels would continue to be a lucrative investment for many decades to come.

One clear indication that the fossil fuel industry plans to conduct its business as if it is disconnected from the climate change issue is the fact that it continues to search for new coal, oil and gas deposits. This is despite the fact that the full exploitation and consumption of the reserves already known would imply emissions much larger than the carbon budget required by the 2 °C objective. Since there is an approximately linear relationship between cumulative CO_2 emissions and the rise in average global atmospheric temperature (Matthews, 2009), it is possible to estimate the maximum amount of CO_2 that, at a particular time, can be emitted while still maintaining a high probability of not going beyond 2 °C. This amount of CO_2 is usually called the carbon budget. It is estimated that between the pre-industrial period and 2015, 2050 $GtCO_2$ (Gigatonnes of CO_2) were emitted into the atmosphere (Rogelj, 2016) and that, to have a 66% chance of not going beyond a 2 °C threshold, we presently have a carbon budget of roughly 1000 $GtCO_2$.

Thus, how much coal, oil and natural gas can we use without violating the Paris Agreement? If we used all the fossil fuels reserves, meaning those currently known to be economically viable to exploit, CO_2 emissions would total around 2900 $GtCO_2$

(McGlade, 2015). In conclusion, to meet the Paris Agreement, we need to leave roughly 2/3 of all fossil fuel reserves in the ground.

Using all known resources, which includes the reserves plus the deposits that are not currently economically viable to exploit, would lead to a total of 18,000 $GtCO_2$ in emissions (Tokarska, 2018). This would cause an increase in the average global atmospheric temperature of between 6.4 and 9.5 °C and an increase of 14.7–19.5 °C in the Arctic, due to the well-known polar amplification. In this scenario, atmospheric concentrations of CO_2 in 2300 would be about 2000 ppmv, i.e., roughly five times the global average concentration in 2018, which in November 2018 was 408.02 ppmv (NOAA, 2018). Climate change caused by this scenario would be stronger and its impacts on the economy, prosperity, well-being and the biosphere would be devastating, primarily because of how fast this change would happen. The last time the Earth's atmosphere saw comparable global temperatures was during the Eocene about 52 million years ago.

How Are Contemporaneous Societies Reacting to Climate Change?

What is the current situation as regards prospecting new fossil fuel deposits? Interested governments promote the search for new deposits by fossil fuel corporations, particularly of oil and natural gas, as if there was no Paris Agreement, which many parliaments of their countries ratified. Some authors have pointed out that one of the potential dangers of this inconsistency is the possibility that if the current transition to low-carbon technologies, especially in the energy and transport sectors, succeeds, it would imply that most of the newly found reserves become stranded assets (Mercure, 2018). A simulation of the consequences of current transition trends continuing until 2050 leads to the conclusion that the macroeconomic impact of stranded fossil fuel assets would be a carbon financial bubble leading to a discounted global wealth loss of between US$ 1 trillion and US$ 4 trillion. According to this study, there will be winning and losing countries due to the macroeconomic impact of the carbon bubble. The winners will be countries that are net importers of fossil fuels, such as China and the EU, and the losers will be producing countries, whose economies heavily rely on those fuels, such as Russia, the USA, Canada and some Middle Eastern countries.

In spite of the potential risks, governments and corporations continue to be interested in finding new fossil fuel reserves. A good example is what is happening in the Arctic. In 2013, Russia began exploring oil in the Prirazlomnoye well in the Pechora Sea, in highly challenging environmental conditions. It is estimated that reserves of oil and natural gas in the Arctic represent roughly 20% of the world total (EY, 2013). To benefit from this enormous potential wealth of extreme energy, Russia is developing underwater prospection and exploitation technologies under sea ice using robotic submarines. It is not only Russia that is interested in exploiting oil and natural gas in the Arctic, but also Norway, Denmark, USA and Canada. Of these 5

countries, only Russia did not ratify the Paris agreement and the USA has announced that it will step out. All these countries intend to compete with one another in the exploitation of the Arctic, each one fearing that only the others will benefit from those reserves. Highly adverse environmental conditions, which make prospection and exploitation more expensive and subject to greater risks, and the volatility of fuel prices do nothing to deter them. A positive factor, from the point of view of enabling the exploitation plan, is precisely anthropogenic climate change that, by increasing average global atmospheric temperature and causing the Arctic sea ice to melt, generates easier conditions to extract oil and gas, boosting profitability. It is also important to mention that the exploitation of oil and gas in the Arctic generates serious environmental risks and may create irreversible pollution and degradation in the regional ecosystems, which are unique in the world (NOAA, 2016).

It is possible to decarbonise the economy at national, regional and global level by the mid-21st century using current science and technology by striving for greater energy efficiency and using around 80% of renewable energies. The technical and economic feasibility of carrying out this plan has been demonstrated by a growing number of research groups and institutions (Jacobson, 2018; Ram, 2017). In fact, to reach a probability of meeting the Paris Agreement of more than 66%, we need to achieve net zero anthropogenic greenhouse gas emissions by 2080–2100 and reduce them by 40–70% by 2050 in comparison with 2010 levels (IPCC, 2014). This plan requires a fast transformational process in society, involving changes in behaviour and in various socioeconomic sectors, such as energy, industry, agriculture, transport and buildings. At present people, institutions and most governments are not sufficiently motivated by the climate change problem to accept and participate in such a process.

The Concepts of Threat, Risk and Vulnerability in the Context of Climate Change

The concept of threat in contemporaneous societies is intimately related to the security concept. As a political value of a given society, security is defined by the individual and collective value systems of that society. Wolfers (1962) considers that "security, in an objective sense, measures the absence of threats to acquired values, in the subjective sense, the absence of fear that such values will be attacked". National security, which has the state as the major referent, must be distinguished from human security, which has human beings and humankind as the referent. In the 1980s, the concept of threat was extended from the military to the environmental realm and various authors recognized the emergence of new security threats that included population growth, resource scarcity, and environmental degradation (Mathews, 1989; Myers, 1989). Buzan (1983) was one of the first to classify risks as military, economic and ecological. The Brundtland Commission report of 1987 referred to two great threats facing humankind: "The first is that of nuclear exchange. … The second is that of environmental ruin worldwide". The United Nations Report of the

Secretary-General's High-level Panel on Threats, Challenges and Change, entitled "A more secure world: our shared responsibility", published in 2004, included for the first time environmental degradation as a threat, among others such as poverty, infectious disease, interstate and internal conflict, weapons of mass destruction, terrorism and transnational organized crime. Furthermore, it pointed out the lack of effective governance structures to deal with climate change, deforestation and desertification (Brauch, 2011). As regards climate change, both the UN and the EU have repeatedly considered since 2007 that it poses new threats to international security (Brauch & Spring, 2011).

Curiously, however, the IPCC does not use the concept of threat when assessing the impacts of climate change. In its latest 5th Assessment Report published in 2014 (IPCC, 2014), the word 'threat' is rarely used and is not found in the glossary of the report. On the other hand, the IPCC has a long tradition of dealing extensively with the concepts of impacts, vulnerability and risk with the aim of facilitating judgments about what level of climate change may be dangerous, using the language of Article 2 of the UNFCCC. The crucial difference between 'risk' and 'threat' that matters for the IPCC is that risk, unlike threat, is represented as a probability or likelihood of occurrence of hazardous events multiplied by the impacts if these events occur, which is the usual definition. At present, in our "risk society", characterised by "a systematic way of dealing with hazards and insecurities induced and introduced by modernization itself" (Beck, 1986), the responsibilities and activities of the public security institutions and the security industry are fast developing and they all use operationally the words threat, vulnerability and risk.

It is, therefore, interesting to analyse their definitions. According to the USA Department of Homeland Security, "threat is a natural or man-made occurrence, individual, entity, or action that has or indicates the potential to harm life, information, operations, the environment and/or property, while risk is the potential for an unwanted outcome resulting from an incident, event, or occurrence, as determined by its likelihood and the associated consequences, while vulnerability is the physical feature or operational attribute that renders an entity open to exploitation or susceptible to a given hazard" (FEMA, 2018). When talking about risk it is assumed that we have the power to estimate or calculate the likelihood or probability of a hazardous occurrence and to estimate the consequences.

The core scientific concept here is probability and the probability theory, established by Blaise Pascal, Christiaan Huygens, Pierre Laplace, Thomas Bayes and others. Threat is just the potential occurrence, the individual, entity or action. When dealing with threats, we are reluctantly forced to recognize our powerlessness; while with risks, we believe that we are dealing with occurrences that we can somehow control. The security industry and the private industry contractors capture this difference very well when they emphasize that "**threats effects** generally cannot be controlled. One can't stop the efforts of an international terrorist group, prevent a hurricane, or tame a tsunami in advance" (Pinkerton, 2014).

Is Anthropogenic Climate Change a Risk or a Threat?

Why then do the UNFCCC, the IPCC and the climate change scientific community avoid talking about threats when dealing with climate change? The main reason is that "the IPCC is stricken with the Probability Obsession" (Schellnhuber, 2018). Since the early days of probability theory, scientists have tried to use its power to predict the future and thereby prepare a better future. One of the first promoters of this project was Nicolas de Condorcet, Secretary of the Paris Academy of Sciences at the time, who in the 1780s argued for the importance of applying mathematics to social sciences and realised the power of the probability concept. The fundamental idea is to describe the ergodic behaviour of physical objects or systems by repeating the same experiment on that object or system a very large number of times, such as rolling dice.

Obviously, it is not possible to do experiments, let alone repeat them many times, with the Earth or climate systems. Nevertheless, if we make a mathematical model to simulate the climate system using physics, chemistry and biology then we can use it repeatedly to do "experiments" with the system with the hope of learning about its behaviour, under different conditions and forcings, and to assess the uncertainties regarding its future behaviour. The IPCC systematically aims to arrive at quantified measures of the uncertainty involved in future climate, impacts and vulnerability projections expressed probabilistically and based on statistical analysis of model results or expert judgment. In the latter case, the consensus-building process tends to lead to "least-drama" lowest-common-denominator outcomes. The high damaging impact but low probability events in the "fat tails" of the probabilistic distributions tend to be overlooked or downplayed (Brysse, 2013). The scientific process is primarily focused on the assessment of likelihood and probabilities and not on the human value of the most damaging extreme outcomes. Furthermore, the IPCC's mandate is to help avoid a "dangerous anthropogenic interference with the climate system", which implicitly presupposes that the objective is achievable. From this perspective, climate change is a risk and not a threat because it is assumed that it can be avoided.

Can we really control anthropogenic climate change and thereby avoid its dangerous impacts? In other words, is climate change a threat in the sense that its harmful effects cannot be controlled? This is a question that is gaining increasing attention and is the subject of much debate. Climate change is already happening and its impacts are significant and becoming dangerous. As already mentioned, it is unlikely that the world community manages to stay below the 2 °C threshold of the Paris agreement. Thus it is very likely that the impacts of climate change will be aggravated and extended for many centuries and that they will be severe, particularly in the most vulnerable countries. What then is the response to this problem from the current dominant and global financial and economic system, which includes the fossil fuel industry as one of its most lucrative components?

The answer is likely to be geoengineering. CDR geoengineering technologies are likely to be able to remove CO_2 in amounts in the order of millions of tonnes. However, separately or together, it is unlikely that they could remove the Gigatonnes

of carbon needed to avoid going beyond the 2 °C limit. Moreover, there are significant uncertainties about the technological, economic and environmental feasibility of CDR processes (Smith, 2016). A 2011 study (House, 2011) estimates the total costs involved in direct capture of CO_2 from the air at 1000 dollars per tonne. With the current value of annual global CO_2 emissions from fossil fuels and industrial processes, which reached 35 $GtCO_2$ in 2017, capturing a significant fraction of that amount every year is financially a very demanding and problematic proposal. On the other hand, the most favourable scenarios among the 900 analysed by the IPCC (2014) indicate that the use of bioenergy with carbon capture and sequestration (BECCS) could be used at the end of the century to extract 12 $GtCO_2$ from the air every year. Nevertheless, this programme would endanger the world's food security because it requires around 1.2 billion hectares, which is more than 25% of the world's total arable land.

SRM geoengineering directly interferes with the climate system to reduce global warming without needing to reduce anthropogenic greenhouse gas emissions and, therefore, without needing to make an energy transition away from fossil fuels. It is a technological fix that increases the amount of solar radiation energy reflected by the Earth. We would thus have a climate system in which the atmospheric greenhouse effect would intensify but would absorb less energy from the Sun. The global, regional and local impacts of this dual interference in the Earth system are naturally harder to model and forecast. However, it is clear that SRM geoengineering does not cancel the effects on the climate system that directly arise from the increase in the concentration of atmospheric CO_2, which is the case of acidification of the ocean and its serious impacts on marine and coastal ecosystems, such as coral reefs.

The most promising SRM method, which is attracting more research and investment, is to launch large amounts of sulphate aerosols into the atmosphere by injecting precursors, such as sulphur dioxide (SO_2), hydrogen sulphide (H_2S) and sulphuric acid (H_2SO_4), using planes, balloons or artillery. The simplistic view of this plan is that it just cools the atmosphere reducing its average global temperature by a value that can be set in advance, for example by 2 °C. It does, nonetheless, generate side effects.

Injecting aerosols into the stratosphere modifies the atmosphere's physics and chemistry and interferes in several aspects of the climate system in a way that is different from the intensification of the greenhouse effect. As a result, the second interference does not cancel out the first; it makes up for some of its effects, but it generates new ones with serious consequences for humankind, such as a reduction in stratospheric ozone and a reduction in average global precipitation of around 4.5%, which is not uniform over the globe (Tilmes, 2013). For example, a greater reduction is forecast in precipitation in monsoons in Africa and Asia, essential to the lives of billions of people. The injection of sulphur dioxide into the stratosphere will also have effects on agricultural production, due to the decrease in solar radiation, atmospheric pollution, the production of acid rains and changes in the general circulation of the atmosphere.

In spite of these threatening side effects, experiments on sulphate aerosol injection into the stratosphere have started. David Keith, from Harvard University (HU, 2018),

presently leads the Stratospheric Controlled Perturbation Experiment (SCoPEx), which is running from 2017 to 2024 with a budget of $20 m. The project is due to launch large quantities of sulphur dioxide and calcium carbonate powder into the stratosphere at an altitude of 20 km above the World View Spaceport in Tucson, Arizona, using a balloon. He acknowledges the difficulties and dangers of SRM geoengineering using aerosols, but he argues that "the Earth is already so transformed by human actions that it is, in effect, a human artefact" (Keith, 2010). It is, therefore, preferable to use geoengineering rather than running the risk of not being able to mitigate current climate change.

This type of experiment is banned by the moratorium on geoengineering experiments passed on 29th October 2010 by 193 member countries of the United Nations Convention on Biological Diversity. However, the USA did not ratify the convention, and the only requirement in the country to perform the experiments is to have clearance from NOAA.

Unlike CDR, SRM with aerosols can be put into place rapidly. By producing them continuously, they provoke a decrease in the average global atmospheric temperature at the surface within a few years. Another important feature is that it can be done by just one country, because the aerosol haze produced locally eventually covers the whole planet just like in a major volcanic eruption or in a nuclear war. Furthermore, the advantage of SRM with aerosols is that it is relatively cheap compared to CDR. With today's technology, a 1 Wm^{-2} reduction in radiative forcing can be achieved with 1 million tonnes of sulphur emissions per year into the stratosphere with an annual cost of a few billion dollars (USGCRP, 2017). Such amounts are easily within reach for most of the countries with the largest economies.

Conclusion

There is considerable uncertainty about the future evolution of anthropogenic climate change. Is the global average temperature of the atmosphere to stay below or above the 2 °C threshold? The large majority of the human population feels powerless to reduce those uncertainties, let alone control climate change. It is, therefore, reasonable to conclude that climate change is progressively becoming a threat. A new level of uncertainty is raised by the possibility of developing geoengineering, which makes it likely that humanity will be confronted by the dual threat of climate change and geoengineering.

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Chapter 13
Climate Change: Anticipated Risk or Heralded Catastrophe? Questions from a Thwarted Public Enquiry

Laurence Tubiana and François Lerin

Introduction

Our contribution to the multidisciplinary approach of the "Societies Under Threat" issue deals with climate change, and especially how this global threat for the entire humanity is formulated in the global public sphere.

Many comments have been made on the apparent cognitive dissonance that seems to be consubstantial to this major threat, probably the most systemic and radical that humanity is confronted with. Even if the science is more and more precise on the breath and scope of the problem, the radical and rapid action needed is not happening or happening far too slowly and inconsistently with the message that science community is sending.

One way to look at it, is to analyze the constitution and the effort of the scientific community to generate action, and the relationship between the knowledge produced in relation of the active (or inactive) response of the decision makers (the politics) or the public (attitudes and behavior) more generally.

As actors involved in the field of climate change, we look at these efforts and the responses elaborated in the political realm as an enquiry in John Dewey sense. We consider in this essay the way that the scientific community has tried to produce knowledge and convey messages to a set of interlocutors, framing them in different ways as a way to co-constitute an active public. This process of knowledge production has been embedded in the political process itself both the mobilization of social actors as well as the shaping of the creation of the institution (The Paris Agreement on Climate change). The multiple interactions through this "community of enquiry"

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have been mobilized to resolve the uncertainty attached to the complex phenomenon of global warming and the inaction caused by this uncertainty.

From this point of view, the understanding of the phenomenon of global warming portrayed first as a risk and increasingly as a major threat of a looming catastrophe for human species has been and is at the core of this social enquiry.

This is not a theoretical question. Very recently, at the end of 2018, the international scientific community working on climate change published its Special Report on 'the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways' (IPCC, 2018). The report based on the research of a network of international scientists is intended first for decision-makers (the IPCC is an intergovernmental body) but, beyond, for the public worldwide: institutions, media, economic actors, and citizens…

This report is particularly important because it gives answers to the two main questions posed by governments in the final hours of the 2015 Paris Agreement negotiation: first, would a limitation of global temperature to 1.5 °C, compared to pre-industrial temperatures, be possible economically and technically? And secondly, would there be a significant difference between an increase of 1.5 °C compared to the agreed-upon 2 °C target?

To better understand the novelty and the importance of this report we have to remember that before Paris, 2 °C seemed manageable and "only" a 4 °C increase was seen as the horizon of some kind of catastrophe. The Special Report, as cautious as it is on formulations, is clear about the fact that 1.5 °C *is the limit* beyond which drastic changes in the climate and therefore for human societies and economies will occur—and that there is a huge difference with a 2 °C change. That is why the nickname of the Report is "IPCC 1.5". The horizon of the drastic changes has therefore moved closer and closer.

The scientific warning is clear. But, having in mind the previous period the following questions remains: based on pure scientific knowledge could we forecast a "Catastrophic Scenario"? How do we accurately represent and convey the challenge of climate change and the gravity of the situation? Is it useful to portray climate change beyond 1.5 °C as a catastrophe? And what would this catastrophe look like? Over time, scientists and experts have been divided on these questions.

Some thought that insisting on the really dramatic consequences of going beyond 1.5 °C was needed to create understanding, organization and awareness. Others thought that the representation of the potential catastrophe would discourage any effort. With a growing acceptance of the need for strong and urgent action, this divide on how to name the future's scenario is at the heart of many interrogations.

The scientific establishment of climate change theory is a long story. Three recent narratives from very different backgrounds and with different purposes shed light on this story: science historians Naomi Oreskes and Erik Conway in *Merchants of doubt* (2010), "ecosocialist" Ian Angus with *Facing the Anthropocene* (2016), and the writer-journalist Nathaniel Rich in *Losing Earth* (2018). First, in this long story, it is important to keep in mind that the so-called "greenhouse effect", as well as the relation between fossil fuel consumption and global warming, are discoveries of the 19th century. Second, the constitution of Earth System science is concomitant with the

scientific advances of many disciplines during the end of the 19th century and the very beginning of the 20th century (physics, chemistry, geology, glaciology, etc.). After the Second World War, with increasing data processing capabilities, the invention of the computer and the digital revolution, what were previously assumptions turned into a real and robust corpus of consolidated and established relationships between the major elements and phenomena driving the shape and evolution of our planet's climate and ecosphere, and thereby its habitability for the Human species.

More surprisingly also, these narratives show that there were early warnings through science-based policy advisories to the governments (especially in the United States, USSR Russia and some European governments, specially in United Kingdom) (see Hansen, 2009). The debate was also brought to the international level at an early stage. The first climate conference in Geneva in February 1979 asking for "urgent action" (sic) also echoes the first US congressional hearing on carbon-dioxide buildup in the atmosphere where Gordon Mac Donald "*testified that the US should "take the initiative" and develop through the United Nations, a way to coordinate every nation's energy policy to address the problem* " (Rich,2018). It was in 1980… 39 years ago!

There was, during the 70s and the 80s, a growing awareness of the global nature of the climate challenge. The 1985 Montreal Protocol on Substances that Deplete the Ozone Layer was perceived at that time as a success of international cooperation and a strong signal that the overall climate issue could be dealt with on time… But at the end of the decade with the election of George W. Bush in the US, the mainstreaming trend toward collective action in the international public debate was thwarted.

Nevertheless, all these scientific efforts, science-based policy advisories and international public debate led to the creation in 1988[1] of a very original institution: the IPCC. The IPCC is a very particular body that has configured and still configures the relationships between science, politics and policies, economic interests and citizenship—which constitute the core of a possible global collective action.

Since its creation and through its Assessment Reports and a few special reports, the IPCC has tried progressively to construct the scope and reduce the uncertainties about climate risks, and to establish and quantify the contribution of human activity to climate change. It has done this through a simple and robust method: producing state of the art climate science based on research that had been published and peer reviewed. The IPCC works through organizing the debate between different published works, in a comprehensive way, settling on methods and results that embrace the whole scope of scientific research on the matter. It then compares scenarios, trying to anticipate what future evolutions could look like, the probabilities that these evolutions will happen and the risks that these entail.

[1] The same year, one of the fathers of climate change theory, Jim Hansen, was testifying to the US Congress. He told them that there was an evident correlation between human activities, in particular emissions of greenhouse gases, including CO_2, and the modification of the climate system. In April 2013 after 46 years of working at NASA's research center, and being the most famous scientist to have called for action, Jim Hansen quit to spend more time on advocacy and action, including testifying against the government.

That is why these reports have been crucial to all the major achievements in terms of international coordination and action and have paced the milestones of the political process. The IPCC's first Assessment Report (AR) in 1990 preceded elaboration and signature of the United Nations Framework Convention on Climate Change (UNFCCC) at Rio's Earth Summit in 1992. The 1995 Report supported the adoption of the Kyoto Protocol; the 2007 Report (AR4) prepared the (failed) negotiation of a global agreement in Copenhagen; the 2014 Report (AR5) presided over the negotiation of the Paris Agreement; and in 2018 the 1.5 Special Report is opening the next phase.

The intention of the IPCC was to overcome the difficulty for policymakers to grasp the extent of the climate problem and, in a way, the above mentioned achievements is proof of a certain success. Nevertheless, the science-based diagnosis and recommendations were always formulated very cautiously; for internal scientific reasons (due to the fact that causal attribution of phenomenon is nothing but simple), and because of the sensitivity of the IPCC to the anti-scientist critics and pressures from some governments and lobbies.

The IPCC's approach, then, has been to portray climate change as a "risk", describing underlying drivers and establishing the possible ranges of probabilities, through a 'scientific consensus' approach. It is founded and based on the gathering of a vast array of climate scenarios, producing families of views to establish which (best) estimates of global warming seem to get consensus, and exclude the dissenting ones or the ones producing extremes results—the "tails" (Weitzman, 2011).

Time to Panic: From Risk and Catastrophism—a Critique to Risk Approach

The risk approach was broadened by Ulrich Beck with the "risk society" allowing to think the need of protection in a world of global uncertainties. Still the idea of the individual or collective capacity to mediate risk and to organize responses is at the core of his thought;

The scope of environmental and in particular climate risks has generated a revision of this conceptual framework. Ulrich Beck insist on giving a scientific status of the ecological threat but for some authors (Bourg, 2013) unable to size the challenge posed to humanity. Either by qualifying the risk of being transcendental to humanity because of potentially annihilating the mere conditions of existence, or considering that the risk concept gives a false perception of security when what is looming may well be, if unmitigated, unmanageable, these authors prefer the notion of threats.

Threat gives effectively the dimension of exteriority, potentially outside of the realm of human outreach, it connects with fear and the domain of emotions whereas risks refers to rationality.

The critics of risk approach came from three different lenses—the scientific, the economic, and the philosophical and ethical lens, giving birth to what we can call the "catastrophist" approach, shifting from risk to threat.

"Catastrophists" have been saying: "we need to speak about the catastrophe, not risk—or better a set of risks—, because showing how severe the outcomes will be, will motivate people, governments and institutions to take the necessary action." The shift from the notion of risk to the notion of catastrophe or catastrophic change is an attempt to invoke a moral, collective and global obligation for action.

Early on, some members of the scientific community began to criticize the IPCC approach as too conservative and failing consider many uncertainties. From the scientific point of view, the criticism was that the IPCC was underestimating the depth and scope of climate change. These critiques proved to be right in a lot of cases (Brysse, Oreskes, O'Reilly, & Oppenheimer, 2013). Concentrating on the middle ground of the scenarios—the median probabilities—and not the tails of extremes, the real risk and the reality were undervalued. It seems that the IPCC assessments, which incorporate the work of hundreds of scientists (258 main authors on the last assessment, not even counting the contributing authors) are inevitably structured to reach consensus and to avoid emphasizing dramatic outcomes.

Critics said that the possibility of moving towards catastrophic disruptions cannot be set aside, given that there are still some major unknowns in the climate system that would probably be irreversible: the saturation of the soils' capacity to absorb carbon, of ocean's capacity to absorb heat, or of the Earth's surface's capacity to reflect solar radiation, the degassing of the permafrost, the melting mechanism of the ice caps…

In particular, after the 18th Conference of the Parties to the UNFCCC (COP 18) in Doha, a group of climate experts warned that the IPCC was not adequately projecting the threats that rising carbon emissions represent. They stressed that the IPCC's overly conservative reading of the science and its dismissal of models that forecast major disruptions as outliers could lead governments and the public to be blindsided by the rapid onset of the flooding, extreme storms, drought, and other impacts associated with catastrophic global warming. Additional studies began concluding that the IPCC reports were underestimating climate change impacts and that key changes were happening even faster than anticipated: rainfall was becoming more intense in already rainy areas, surface ocean heat uptake and deep ocean warming were higher than expected, sea level rise had far exceeded predictions, melting of the Arctic sea ice was happening far beyond the models' predictions. CO_2 emission levels were also meeting the high-end scenarios developed in 1999 and applied in AR4, showing that scientists' "worst-case scenario" had in fact been realized.

Hansen argues that scientific reticence involves " *a tendency for 'gradualism' as new evidence comes to light*," and a "*pressure on scientists to be conservative*," to submit scientific papers that " *do not push too far and are larded with caveats*" (Hansen, 2007). An additional factor beyond the fear of being wrong is "behavioral discounting". This amounts to the belief that some ways of being wrong are considered worse than others. In particular, scientists' fear of "crying wolf" is more immediate than their fear of "fiddling while Rome burns". They call this "erring on the side of least drama"—or ESLD (Brysse et al., 2013). Other research shows how

and why scientists are vulnerable to climate change denial (Lewandowsky, Risbey, & Oreskes, 2015).

The shift from risk to catastrophe also came from a few economists; who had for the most previously been on the side of gradualism and underestimated the need for strong regulatory action.[2] Nicholas Stern in his seminal "Stern review" (Stern, 2006), showed that the cost-benefit analysis was factoring in the costs of action while completely ignoring the cost of impacts, because of uncertainty. Indeed mainstream economists systematically undervalued potential serious damages. As a starting point this leads to reasoning in terms of rational choice theory and insurance: decision-makers are confronted with a universe of choice where they can, much like in a lottery, ponder the probabilities of gain and loss. Yet economic models—by definition—exclude the possibility of the improbable but catastrophic (Dupuy, 2002). The aversion to uncertainty is profound.

Martin Weitzman argued that the analysis of climate in terms of risk was inadequate to account for the potential of catastrophic extremes (Weitzman, 2011). Scientific knowledge does not allow for the exclusion of these hypotheses. The risk than cities in Bangladesh, San Francisco or New York will be completely submerged is not really "insurable", but it is not impossible.

As Weitzman argued: "*the most striking feature of the economics of climate change is that its extreme downside is not negligible. Deep structural uncertainty about the "unknown unknowns" of what might go very wrong is coupled with essentially unlimited downside liability on possible planetary damages… these numbers do not look to me like evidence supporting "wait and see" policies. The capacity of the oceans to take up atmospheric heat, the saturation of carbon sinks, the loss of albedo, and many, many other relevant mechanisms tell a similar story of long stock-accumulation irreversibilities relative to the time it takes to filter out and act upon meaningful signals of impending disasters*." (Weitzman, 2011).

Yet most economists framed the discussion about action on climate change as a cost-benefit analysis, and climate risk as insurable. To use that framework, they then need to ignore "low probability and very high impact" events, as probabilities cannot be efficiently attributed to these phenomena. The rationale of the academic discipline is then to discard or to ignore them on the basis that "catastrophe is not insurable, so it cannot happen."

The philosophical perspective of enlightened catastrophism developed by Hans Jonas and Jean-Pierre Dupuy advocates for bringing the possibility of a catastrophe into the ethical realm. Because of the radical uncertainty of the climate future, it states that the unique moral position is to act as if it was to happen. In a way it could mirror the famous phrase of Nelson Mandela "it always seems impossible until it's done." It requires to believe in the possibility of the catastrophe to prevent it.

[2] Most economists, up to the publication of the Stern Review in 2006, and even after contributed to delay action or inaction. Imposing cost-benefit reasoning despite the uncertainties about impacts strengthened politicians in their consistent decisions to push back action to a later time.

The German sociologist Ulrich Beck who theorized second modernity as "risk society" (Beck, 1992) in his later published works developed the idea of "emancipatory catastrophism" (Beck, 2015), and questioned us about "how climate change might save the world" (Beck, 2014). In his unfinished book published posthumously, he developed a strong argument that, because of the immense threat of environmental crises, we are living a time of "metamorphosis" (Beck, 2016). The challenge, in his words, is to create a new cosmopolitism and a new "world order" because the ancient one (frequently named as Westphalian) is not able to tackle the issue of the catastrophe.

Whatever we might think about his solution it is clear that a drastic climate change puts the habitability of Earth at stake and generates chaos effects on societies, their economics and cultural characteristics. If it is an Earth issue then all humankind is involved—that is to say all and each citizen of each country. Climate without instability is in that sense a global public good—and due to its consequences on all aspects of human life on Earth the first and fundamental public good—all others depending on its provision, in a way or another. The late economic Nobel Prize winner Elinor Ostrom, argued as she always has done that neither market nor state are the only way to manage commons, and therefore put the accent on "polycentric approach" (Ostrom, 2009). That is to say that in all parts of the world people can and are contributing to the reduction of emissions and the preservation of the environment, while bearing in mind the multiscale of actions. As Ostrom put it: "*while we cannot solve all aspects of this problem by cumulatively taking action at local levels, we can make a difference, and we should,*"; but at the same time she was stressing the urgent necessity of international coordination (IRIN Global, 2012).

Climate change is a common problem and a problem of the global commons, and for this reason should be tackled by all governments, institutions, enterprises and citizens of the Earth. This brings us to a certain and new universality, defining at the same time part of the "all-mankind" ethics, even though participation in the production of this architectonic public good remains very dissymmetric. However there is also a double responsibility in terms of ethics: first towards the poorest and later industrialized countries (without even mentioning the most vulnerable countries: like Pacific islands and deltas,… or the most vulnerable communities directly dependent on conditions and natural resources radically changed by the climate modification); and secondly towards the future generations. By our action—or inaction—today, we are "producing" the world of tomorrow—the one of our children and grandchildren.

Intergenerational and world-equity responsibilities are not only a new area for international relations[3]; but putting the Earth's habitability at stake for our species redefines the realm of ethics. The very idea that we might have of man- and humankind is transformed by this unquestionable consubstantial relation to our

[3] As a counter example we can cite Henry Kissinger's latest book, a kind of geopolitical testament and manual of international relations that does not have a word on climate change and its implications for how we have think the world system today (Kissinger, 2015).

planet. The ethical sphere can no longer be limited to the individual or the different communities but extended to the universal through our common conditions of living, even if these are still going to be differentiated.

Inaction as a Response to Threat of Catastrophe

One obvious reason for this thwarted debate was, undoubtedly, the growing complexity of the question as these multiscale, multidimensional and international dimensions were brought in negotiations. In that sense if we can say that there is A global cosmopolite Enquiry about climate change, this collective Enquiry is fractioned in an immense set of local, sectorial, national, communitarian (etc.) enquiries. National interests, climate debt (of the old industrialized countries), technology transfers, etc. created an incredibly complex forum for the creation of an integrated and universal climate change regime.

However other elements must also be taken into account to explain the observed reluctance of all type of actors.

A first element is of course the political economy underlying potential action—or rather *inaction*. The active denial of the problem by a number of actors and in particular: the incumbents of the fossil fuel industry; large chunks of industry such as the chemical industry, heavy industries, agribusiness and the automotive sector (…); governments of fossil exporting countries and all the other groups that depend on the use of fossil fuels….

Together these actors constitute a very big share of the global economy, and support for their interests is well organized. They have for instance launched campaigns of doubt about the reality of climate change, its scope and its origin, and therefore also about the potential solutions needed. Naomi Oreskes and Erik Conway's seminal book *Merchants of Doubt* (2010) addresses what can only be described as a strategy that played on the uncertainty inherent to scientific research to deny the need to act. These maneuvers, fueled by "dark money" and the creation of institutions and campaign lobbies, has proved rather effective. These campaigns were based on and have sought to amplify the well-studied area of human psychology and cognitive biases. The catastrophe forecast was used in this campaigns to trigger human reflexes and biases.

Some scholars have named our reaction to catastrophic discourse "apocalypse fatigue" (Stoknes, 2015), confirming that several elements of human psychology are stopping us from taking the necessary action on climate change.

The first is **distance**; in terms both of time and geography. With regards to time, people tend to think that climate change is something that will happen in the distant future—it feels remote from the everyday, pressing concerns that are on people's minds. Even when its framed in terms of impacts on children, studies show that people with children are still too focused on the day-to-day challenges of raising a family to prioritize what they see as very-distant action. Many people also see climate change as something very global, which might therefore not affect them. It is rarely

presented as a local story, and since people do not think that the impacts of climate change will affect them, they are much less likely to change their own behaviors to mitigate these impacts.

Another critical element to consider, especially as we think about the best way to communicate on climate change, is the conclusion of many studies that the brain tries to avoid dealing with the doom conveyed by discourse on the apocalypse, collapse or catastrophe (Arnold, 2018). When people have the impression that the problem is too big and that there is nothing they can do; when something is too scary; or when they feel helpless and overwhelmed; they block it out. Further if they do not think that changing their behavior by themselves will solve such a big problem, then they do not do it.

This problem of incentivizing behavior change becomes particularly difficult where there is dissonance. What we know—like the fact that using fossil fuels and eating meat contributes to climate change—is often incompatible with what we do—like flying on airplanes and not being vegetarians (Stoknes, 2015). We all know that this dissonance exists, even for those already engaged in climate action. However because this dissonance is uncomfortable, the preferred option is often to avoid guilt through the justification of actions: by using the argument that changing lifestyles would not help—and at the most extreme, or at the most extreme outright denying the facts.

This dissonance is particularly difficult for people to come to terms with when it affects their identity, culture, and values (Kahan, Jenkins-Smith, & Braman, 2011). If people have a lot to lose personally, or the information they are receiving is not in line with what the people around them believe, it becomes even more difficult (Kahan, 2012). This can be seen in some of the places such as the American society, where climate change has become a sharply partisan issue. If Republicans are generally associated with an opposition to climate action, it becomes much more difficult for any individual Republican to take a pro-climate stance.

Nordhaus and Shellenberger explain this as follows: "*having been told that climate science demands that we fundamentally change our way of life, many Americans have, not surprisingly, concluded that the problem is not with their lifestyles but with what they've been told about the science* " (Nordaus & Shellenberger,2009).

This shows the importance of considering the cultural context when we think about how to communicate with the public or the non-specialist. We cannot take a one-size-fits-all approach, or assume that the science speaks for itself.

Unleashing Action: The Theory of the Paris Agreement[4]

The design of the framework of the Paris Agreement was based on lessons learnt. After many years of failed attempts, constructing a global consensus on climate action required a recognition that the cognitive dissonance among the social actors would have to be addressed; as an obstacle beyond traditional political ones. The Paris Agreement machinery and delivery process were conceived in an attempt to overcome that dissonance and as a learning exercise: a social and political experiment.

Limiting global warming in a significant way supposes many economic, social and technological transformations. The scope and breadth of the change needed could not be directly envisaged without fear and indeed resistance. Governments and all actors were thus invited to progressively discover and explore the possible. As they explored the future, their expectations changed and came together. This was the theory of change behind the Paris Agreement, designed to generate the convergence of these expectations. From the very beginning, the message had to be: "the low-carbon economy is inevitable and desirable".

During the long six years between the conference on climate in Copenhagen in 2009 and the one in Paris in 2015, there was a major shift to bring the global to the local. This is particularly illustrated by the evolution of heads of states' statements at each COP.

In 2009 in Copenhagen, most of the statements were about the process and issues being debated such as common but differentiated responsibility, justice, finance. President Obama, for example, spent most of his speech talking about transparency, financing, and the design of a review mechanism (The White House Office of the Press Secretary, 2009). In 2015 in Paris, he started his speech by sharing what he had seen happen in Alaska: "*where the sea is already swallowing villages and eroding shorelines; where permafrost thaws and the tundra burns; where glaciers are melting at a pace unprecedented in modern times*." (The White House Office of the Press Secretary, 2015). This kind of message was echoed across each head of states' speech, in which they said "we have experienced the impacts of climate change in our own country, it is happening to us here and now."

This happened for a few reasons. One is the simple reality that President Obama remarked upon—that the impacts of climate change started to be felt even more strongly all around the world, and in rich countries too.

Another factor is the role that scientists progressively played in their own countries.

[4] This part of our contribution is based on the experience of Laurence Tubiana as France's Climate Change Ambassador and Special Representative for COP21. She explains: "I have spent all of my career going back and forth between academia and government, and when I entered the government again to take on one of my greatest challenges—COP21—my goal in designing Paris was to draw on all of these theories and lessons. Both the lessons of past failures like Copenhagen, but also what we know about human behavior, and particularly what we know about the role expectation plays." Sir ***David MacKay*** Memorial ***Lecture***—Wednesday, 17 October 2018 Met Office, Exeter, England.

The IPCC is a global institution. Even if each country participates and negotiates the Summary for Policymakers, it operates on the basis of global consensus, and for the collective global understanding.

In the 2000s, national academies of science started taking climate change more and more seriously and generated their own specific reports: a process through which they took ownership of climate science and re-localized global knowledge. In the United States, President Bush asked the National Academy of Scientists in 2001 to review the IPCC findings, wanting to hear that climate change was not happening. However, the National Academy provided a report supporting the analysis of IPCC and describing the consequences of a warmer climate for United States. A similar process took place in China where several reports were published by national scientific academies (Gao, 2016). For the first time, Chinese voices were telling the government that China was going to be seriously impacted by climate change. Both of these examples show what bringing the global to the local means: having the voices of the people from your own country, your own region, your own city, sounds as a more convincing truth.

This approach proved successful in formal political processes too. Whereas the official declaration that came out of COP15 in Copenhagen clearly separated the political and scientific declarations, things changed with the production of national assessments. Many of the researchers were already participating in IPCC processes; but because they were saying the same thing in a nationally-owned publication, governments more readily relied on their findings.

Another challenge in incentivizing action on climate change has been the way in which people sometimes think of climate change as something that will happen in the distant future. This has however also been changing, notably due to the very visible and tangible increase in frequency and severity of extreme weather events. Hurricanes, typhoons, floods and heat waves have resulted in people dying and cities being destroyed in the present, rather than in some distant dystopia.

The discourse on climate change and its impacts has also progressively become closer in time. The first time climate change was seriously talked about was in the 1980s. Then, 2050 or 2100 were practically meaningless for a lot of people. Now as the IPCC indicates in its latest report, the next 12 years form the decisive period of action to avoid catastrophic climate change: the horizon has been brought closer to ordinary and daily management of desires, projects and plans. Most people on Earth will be alive in 12 years, and in fact in 2050. Many more people than before can imagine themselves living in 2050. The fast-growing engagement of the youth is the testimony of this change in time horizons.

It is with this purpose in mind, to bring the future to the present that a global stock-take and a revision mechanism—each on a 5-year basis—were embedded in the Paris Agreement. The thinking was that a progressive process of reassessment can reduce anxiety about new territories of actions. Asking countries to present by 2020 their 2050 de-carbonization plans consistent with the global goal of keeping global average temperatures to well below 2 °C and pursuing action to stay below 1.5 was another way to bring this future to their present. It allows them to imagine what the decarbonized economy would look like, to bring it to the present and make it more familiar.

Demonstrating that solutions exist, that they are known, that the tools are available to implement them and that the funds available to pay for them are important steps to avoid the blocking out of information, and denial.

Politicians and policymakers for instance need to offer solutions to be successful and to legitimate their position of power. They tend to deal with topics which they have some understanding and knowledge of, and which they feel most comfortable speaking about.

The way politicians deal with global macroeconomics illustrates this point well. Governments have very little control over global macroeconomics in reality. However, they seem to be in control because they understand it more or less, and because they have tools they know they can use (currency rate, debt, tax system…).

On the topic of climate change, people (politicians, policymakers and other actors) might accept that climate change is looming, but still consider it to be someone else's responsibility. A big challenge we faced ahead of COP21 when designing the policy toolkit to reduce emissions was to encourage governments to make their own commitments, when climate change as an issue seemed so aggregated and global. The many discussions before Paris and between 2009 and 2015 sought to figure out what the carbon budget of each country could be. Even if a distribution of the carbon budget could not be agreed, the idea was that countries still needed to figure out their carbon impact, and how they could change it. This was based on the understanding that countries cannot do everything they need to do immediately, but that they still need to think long-term. And in order to do that, countries need to understand the pathways to follow to get to the very deep emissions reductions that are necessary.

This is why it is crucial to make clear that the tools and solutions to address climate change exist, that they are well-known and familiar: the timeline, the carbon budget, the technology, the costs—it is all known. Policymakers, politicians and professionals can use all of these tools to make real choices that drive progress.

Citizens also need to be presented with solutions. It is important to let citizens know that there are solutions for their governments, that there are tools which their representatives can use, and to support citizens in holding their governments accountable for using these tools. It is also essential to ensure that the climate threat is communicated in a way that resonates with individuals, also showcasing the responses and solutions which they can themselves implement at different levels.

One way to expand the breadth of people reached is to use different messengers who have resonance with different local communities and appeal to people with varied sets of values and ideas. A recent success was the UK campaign through which sports figures talked about how climate change will affect sports. This was an efficient way to communicate, through figures that people feel connected to, that climate change is not an abstract, distant scientific phenomenon but that it threatens some of the things that are close to people's heart and daily lives.

Having a better diversity of messengers will also mean that the language used is better adapted. The phrase "climate change" for example does not affect everyone in the same way; in fact, many people reject it. However many of the same people respond enthusiastically to topics such as nature or biodiversity conservation, clean energy and energy independence. Climate change is the most complex challenge

of our time, and we need to develop a complexity of language that is equal to the challenge.

It is everyone's responsibility to take action consistent with Paris. Because of the complexity and the scope of climate action needed, it cannot be the sole responsibility of national government officials. The Paris Agreement sought to have a common and shared objective among a whole set of actors: national governments, but also sub-national governments, economic actors, investors and international institutions that have their own governance structures and their own decision-making processes, as well of course as individuals and civil society organizations. What was most important was for them to support the shared Paris goal, to design how their activity would evolve consistently with this goal. Envisaging the implementation of the Agreement as an across-the-board activity is a powerful way of making expectations converge, which in itself is a formidable tool of implementation and enforcement. It offers a resilience to the Agreement itself because of the checks and balances it relies on, which was intentional integrated. Political headwinds were expected to come, which is why a lot of actors were brought together. Their mobilization also enabled the result reached: the acceptance and support of the Paris Agreement goal being adopted far beyond the governments that signed it.

As a Conclusion: Reenacting Dewey's Enquiry Approach?

We have used the terms "experiment" and "learning process" when describing the Paris Agreement. As part of this conclusion we can expand this idea by reactivating certain aspects of John Dewey's thinking and his original interpretation of pragmatism (Dewey, Rogers, 2012). The entry into the era of the Anthropocene—even if it must still be confirmed by geological science—is a new situation with various consequences. It requires action based on knowledge: first the carrying out a diagnosis of change, then putting solutions into place, in response to the economic, political, ethical and scientific implications stemming from this change. There are therefore important epistemological implications, and Dewey's notion of "experimentalism" is useful in framing the question.

We have seen for example that the shift from risk to threat and catastrophe is not a purely "scientific" question but rather linked to the conditions of action and inaction; the question was therefore not to know from an essentialist point of view whether it is "true" that what we are confronted to with climate change, is either an anticipated risk, or an announced catastrophe.

We are in a situation in which action and knowledge are fundamentally linked, as was adamantly affirmed by the philosopher. Inquiry, action and knowledge production are consubstantially linked (Dewey, 1938). The question is not about universals, invariants and scientific knowledge that would be separated from the domain of action through their own rules of production and rationality (which furthermore exist). This knowledge is interpreted, used and understood, *but also produced* by an intention for action and by action itself. The global enquiry around the threat of

global warming can be precisely described as a way to construct the possibility of action, building the acceptance of the magnitude of the threat, processing knowledge to anticipate the potential catastrophe while constituting progressively a collective, a public in Deweyan sense. Recognizing the threat, coming to terms with it, has been and hopefully will be the condition of action.

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Chapter 14
Financial Black Swans: Unpredictable Threat or Descriptive Illusion?

Christian Walter

This chapter discusses the threat posed by rare but high-impact events in finance: serious market crashes or financial meltdowns, such as the crisis of 2008. These crises have been metaphorically interpreted as "black swans" by Nassim Taleb in a book that made a worldwide impression, *The Black Swan: The Impact of the Highly Improbable* (2007). A "black swan" is an event that is very unlikely and not normally to be expected (i.e., an "outlier") but which, if it does occur, will have extreme and possibly catastrophic consequences. Taleb's "black swan theory" contains an analysis of these threats that presents them as radically unpredictable, articulating an inexpressible aspect of the markets that leaves us helpless. In this mental schema, nothing can be done to prevent black swans. All we can do is work out defences against them, so as to be in the least vulnerable position possible when they arise—as they certainly will.

While the issue of rare events is a relatively longstanding concern in the field of probability, as reflected in the development of extreme value theory generalising the older Pareto principle (the source of the "80/20" rule that 20% of events account for 80% of outcomes), the last few years have seen a renewed interest in analysis of high-impact rare events, initially stirred particularly by the financial crises and subsequently by the effects of global warming. Much research has recently been devoted to them, under designations such as "large-impact, hard-to-predict, and rare events" (Kjell & Netland, 2010) and "large-scale, large-impact rare events" (Werther, 2013). In the field of finance, a series of crises have led to political and regulatory decisions introducing international prudential rules for financial activities, and market regulation (Basel III, Solvency II etc.) intended to lower the threat of a global crisis by acting on the financial levers of systemic risks. Ten years after the 2008 meltdown,

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these financial rules and regulations do not appear to have achieved their aims, and we are still in a situation where the threat of systemic financial crisis is seemingly unextinguished. More importantly, unexpected and undesirable consequences of prudential regulation are becoming visible, for example market procyclicality (Bank of England, 2014), suggesting that far from reducing the threat of systemic risk, the new prudential rules have had the side-effect of increasing it. Black swans thus still lie before us in finance.

The concept of the black swan was introduced by Taleb in a first book, *Fooled by Randomness: The Hidden Role of Chance in Life and in the Markets* (2001). To be clear that we are talking about the field of finance as distinct from "natural" black swans such as floods or earthquakes, the term "financial black swans" is used for the threat concerned by this chapter. It is discussed through the following questions about Taleb's ideas: in the financial world, are black swans really an unpredictable threat embodying the radically unknown, so that we can only brace ourselves and hope to be well-prepared when the time comes? To answer this question, I express the problem as follows. *Ex post* explanations of financial black swans have emphasised economic causes (indebtedness, leverage, etc.), market failings (risk control, etc.), or less-than-ethical behaviour (greed on the part of the actors, etc.). So far, the effects of writing down the probable, i.e., mathematical risk modelling, have not been analysed. This chapter intends to discuss the threat of financial black swans from that perspective.

Let us be more specific. I am not an economist, and am not going to join in the economists' debate about the causes of the 2008 crisis. Instead, I will adopt an actuary's standpoint. Actuarial methods focus on contingent futures, considering ways to capture probability and to symbolise it in writing (accounting entries, mathematical expressions). How can we evaluate the probable? How can we quantify it? How can we calculate the financial impact of the probable? One known application of actuarial methods is practised by insurers and reinsurers, and involves calculations of environmental, climate/weather, industrial, and financial risks. I shall address the question of the threat of black swans from an actuarial angle, i.e., through analysis of how the probable is written down in the technical tools of finance, and in financial prudential rules.

The objective of this chapter is thus to propose an alternative understanding of the threat of financial black swans. The argument is presented in four steps. (1) The financial probable is symbolised in mathematical language by written expressions of the measure of risk, based on specific assumptions about uncertainty, which I have called "the financial *Logos*" (Walter, 2016). (2) The mathematical language used to capture the financial probable is not merely a descriptive language for financial risks (representational view of language) but a language that produces a "speech act" (pragmatic view of language) in the sense of financial models understood as speech acts (Brisset, 2018): the financial *Logos* speaks and transforms the world through financial instruments and financial regulation. (3) The writing down of the probable lodged in risk models and prudential rules can thus be a source of the danger those very models and rules seek to contain (Lévy-Vehel & Walter, 2015). (4) Financial black swans can thus resemble unexpected consequences of the words ("speech act") of the financial *Logos*. As a result, considering financial black swans

as radically unpredictable events, in line with Taleb's view, is a descriptive illusion. I thus counter the theory of Taleb's financial black swans with the theory of the financial *Logos*, considering that the second of these theories offers better protection against the threat of financial crises.

The Crisis of 2008

We now turn to the economic collapse of 2008. First, I present an interpretation of that collapse through the lens of black swan theory. I follow this by introducing an analysis of the writing down of the probable as an additional cause of the crisis. Finally, I propose the theory of the financial *Logos*.

Taleb's Black Swan Theory: *Fortuna* Gets Its Card

The term "black swan" was used by the Latin poet Juvenal in his sixth *Satire* in the expression "a rare bird in the lands and very much like a black swan", as it was believed at the time that black swans did not exist. Why should something radically unpredictable be called a "black swan"? By allusion to the Europeans' surprise at discovering black swans in Australia, since their previous observations had led them to suppose that all swans were white. An earlier reference to the idea also exists in the personage of *Fortuna,* fortune, whose effects are described by Machiavelli (1469–1527) in *I Capitoli* (1513). The radically unpredictable event is literally the unforeseen, because we *cannot yet see it*. The idea is expressed by Machiavelli's prosopopoeia spoken by *Fortuna*: "I have in front all my dishevelled hair, with which I cover both my face and breast, So that no one may know I am right there." Metaphorically, a black swan is thus "something" that disrupts the organisation of what we are always—vainly—trying to control in order to make the world around us as predictable as possible. Any policy must negotiate a certain amount of unpredictability, and the black swans here are (black) signs of the action of *Fortuna*. A force of nature bursts onto the scene of human plans, as if to remind us that any desire for complete control of phenomena is simply a reflection of the deadly temptation of totalitarianism (Rodarie, 2015). According to this argument, it is economists' desire for control that has exposed them to the misadventure of the black swan: something radically unpredictable that upsets the soundest forecasts.

In Taleb's view, it is possible to talk of a "black swan" if the following three criteria are fulfilled: first, the event is a surprise (for the observer); second, this event has extreme consequences; third, after its first occurrence, the event is rationalised with hindsight as if it had been expected all along. This retrospective rationalisation is possible because the information that would have indicated the event's forthcoming arrival was already present, but was not taken into consideration.

This forecasting error deriving from inductive reasoning (based on repeated observation of white swans, it is deduced that all swans are white) was systematised in the parable of the inductivist turkey, which was invented by the English mathematician and philosopher Bertrand Russell (1872–1970). The parable goes as follows. A turkey observes that every morning without fail, it is fed by humans. Applying inductive reasoning after collecting a number of observations considered sufficient (in this case 364 days), the turkey concludes that humans are a benevolent race and are good to turkeys, and placidly awaits the 365th morning. But the 365th morning falls on Christmas day, and the turkey is killed for Christmas dinner! For 99.73% of the time (364 out of 365 days), the turkey's conjectures were correct, increasing confidence in its predictions. But the final day of the year crushed its expectation: just like the economists at the time of the 2008 crisis, who saw a black swan suddenly appear in the form of defaults on subprime mortgage repayments, the inductivist turkey experienced a crisis of predictability. And like the economists, the turkey lost its head…

In *The Black Swan*, Taleb gives some examples of invalid inductive reasoning, including the following two. The first concerns Captain Smith, who died in the sinking of the *Titanic* on 14th April 1912. In 1907, he had declared: "But in all my experience, I have never been in any accident… of any sort worth speaking about. I have seen but one vessel in distress in all my years at sea. I never saw a wreck and never have been wrecked nor was I ever in any predicament that threatened to end in disaster of any sort" (p. 42). Just five years later, Smith went down with his ship. Another example, from the financial world this time, concerns the Amaranth hedge fund. In September 2006, the asset management company, Amaranth issued a statement to reassure investors, telling them that although the business environment was difficult, they had twelve risk management specialists monitoring its dangers in order to reduce threats, and nothing could go seriously wrong. Just a few days later, on 19th September 2006, Amaranth's market value plummeted by 65% or around 7 billion dollars, at the time "the most impressive loss in trading history".

Taleb's comments on this second example are interesting. I present them here in the form of a dialogue between us:

– (Me) The number of risk managers made no difference. Why?
– (Taleb) Even if the company had had 112 risk managers, it wouldn't have made much difference; it would still have collapsed.
– Why does the number of risk managers add nothing?
– It's obviously impossible to manufacture more information than the past can give us; if you bought a hundred copies of the *New York Times*, I'm not sure that would help you build up incremental knowledge of the future.
– Why?
– Quite simply, we don't know how much information there is in the past (p. 42).

In the end, Taleb considers that when market meltdown occurs, the situation is rather like Fortuna intervening directly in the world of finance. Nothing can be said or done to prevent it, and this kind of threat can never be controlled. This attitude leads to scepticism regarding risk models' ability to reduce the danger of a crisis

on the markets. An illustration and interesting confirmation of this sceptical, disillusioned attitude comes from one of the highest-profile representatives of the financial market authorities, Alan Greenspan, who was president of the US Federal Reserve from 1987 to 2006. After the financial crisis, Greenspan wrote in the *Financial Times* (16/3/2008) that "We will never be able to anticipate all discontinuities in financial markets" and that consequently, "Risk management can never reach perfection. It will eventually fail". The key word in this opinion piece by Greenspan is the word "discontinuities": it indicates that in a continuist conception of stock market dynamics, the black swan takes the form of a radical, and therefore radically unpredictable, discontinuity. Taleb's theory can thus be summed up as follows:

Proposition 1: reformulation of Taleb's view In finance, a discontinuity is a financial black swan

The choice of whether or not to include discontinuities in the mathematical writing down of the probable is a mathematical decision, which should made upstream, before any risk model is constructed. Focusing on this choice places our analysis earlier than Taleb's: we focus on predictability crises rather than forecast failures. This leads into closer consideration of how the probable is written down.

Financial Black Swans as Consequences of Killer Formulas

It is a well-known and well-documented fact today that one of the central problems in the 2008 financial crisis lay in a specific equation, a mathematical formula that gave the price of credit default swaps (CDS), the financial instruments supposed to provide protection against default risks: the formula or equation devised by David Li and known as "Li's copula". This formula was faulty, not in the sense that the risks were miscalculated, but in the sense that they were mismodelled. There have been many debates about this equation, which a famous article by Felix Salmon called a "Recipe for disaster: The Formula That Killed Wall Street" (Donnelly & Embrechts, 2010; Embrechts, 2009; Lee, 2009; MacKenzie & Spears, 2012; Salmon, 2009). The devil, the saying goes, is in the detail. Playing with the words, I would say that, in this case, the detail was a D-tail, meaning the distribution tail. The distribution tails of a law of probability (the tail risk) describe the behaviour of a random variable (the risk, in this case) in the zone that is furthest from its central value (mean risk). Distribution tails can be "thin" (indicating a very low probability of a major risk arising) or "fat" (indicating the opposite: a very high probability of a major risk arising). Li thought that the risks of simultaneous mortgage credit default could be modelled using a coupling function (a "copula"). But he chose to use a symbol-based form of writing to express the probable (in this case, the probability of simultaneous default) based on Gaussian law (a Gaussian copula formula).The logic of the Gaussian probable

underestimates the probability of rare events, and creates the illusion that the risk is under control. The Gaussian copula formula encouraged excessive risk-taking because it gave precisely that illusion (Walter, 2008).

This faulty risk modelling is very well depicted, with great epistemological accuracy, in Jeffrey Chandor's film, *Margin Call* (2011), which tells the story of the fall of Lehman Brothers bank. One sequence of dialogue in particular is crucial to grasp the epistemological and ethical issues involved in the writing down of the probable: a conversation between the risk management officer, Sarah Robertson, and the head of fixed income securities, Jared Cohen. The scene happens late at night, just after they have realised there is a problem with the mathematical risk assessment formula and are beginning to estimate the consequences, in terms of potential losses for the bank. Robertson joins Cohen in his office and the following exchange takes place. It is such an almost-perfect illustration of the difference between risk calculation and risk modelling that it should be part of every financial ethics course:

– (Sarah Robertson) It's legit… the kid killed it. The formula's worthless.
– (Jared Cohen) What does that mean?
– (Sarah Robertson) It's broken.
– (Jared Cohen) There are 8 trillion dollars of paper around the world relying on that equation!
– (Sarah Robertson) Well, we were wrong.

This dialogue illustrates that a mathematical writing down of the probable, in this case Li's copula, led to financial disaster because it was overtaken by reality ("the formula's worthless"). The observation that a simple, but false, equation can lead to financial catastrophe had already been made by French physicist, Pierre Duhem, in the early 20th century. In *The Aim and Structure of Physical Theory* (1906), Duhem questioned the role of models in science, with the following comment on the relationship between mathematical models and serious incidents: "We shall remind industrialists, who have no care for the accuracy of a formula provided it is convenient, that the simple but false equation sooner or later becomes, by an unexpected act of revenge of logic, the undertaking which fails, the dike which bursts, the bridge which crashes; it is financial ruin when it is not the sinister reaper of human lives." Li's formula was convenient, but not "true" as regards the accuracy of the mathematical writing down of the probable.

The other important line in this dialogue is Sarah Robertson's remark "we were wrong". This is "a form of socially elaborated and shared knowledge, with a practical aim, that helps to construct a reality common to a social group" (Jodelet, 1984, my own translation), here a knowledge of the risks of default on mortgage loans. The symbol-based writing down of the probable by the mathematics of risk led to "construction of a reality common to" all professionals in the field of finance. The financial *Logos* is the means of constructing this common reality through mathematical models.

The influence of writing down the probable can thus be summarised as follows:

Proposition 2: influence of shared knowledge In finance, a discontinuity is a financial black swan for a continuist mental schema

Financial Logos *Theory: Mathematical Black Signs Matter*

I now introduce and summarise the concept of the financial *Logos* introduced in a previous publication (Walter, 2016). The financial *Logos* is a structuring discourse which is incorporated into the financial management arrangements of banks, insurance companies and asset management companies, and monitoring and controlling practices for financial activities. This discourse has three kinds of component: written (e.g., formalisation of rules for investment or risk dispersion), oral (e.g., the discourse on appropriate financial management for a pension fund or an investment bank) and technical (e.g., the methods for calculating risk for equity). This discourse engrains financial metrics and reasoning in places previously untouched by finance and, in this sense, the financial *Logos* is a vector of "financialisation" (Epstein, 2005) as described by Chiapello, i.e., colonisation by specific financialised techniques and calculation methods. This discourse particularly concerns representations of risk, forming a specific culture monitored by the epistemic authorities of financial regulation, in a sharing of mandatory knowledge about the nature of risk.

Professional players in finance are driven by technical mathematical tools whose conceptual foundations they no longer perceive, like Monsieur Jourdain in Molière's *Le Bourgeois Gentilhomme*, who is delighted to discover that without knowing it, he has been speaking "prose" all his life. Furthermore, the players are unaware of which prose, or language, they are speaking. When this language was related to the representations of risk, and those representations were simplified to the extreme by using Gaussian mental schemas, the result was the financial meltdowns of 1987 and 2008. In other words, theories in the financial world seem to have a distinguishing feature setting them apart from theories in the natural sciences: they appear to influence what they aim to "describe", and this resonates with the definition of postmodern reflexive knowledge.

In sum, echoing the title of Austin's (1962) *How to do things with words*, I argue that "writing down the probable is doing things with the words of the mathematics of risk". Performativist school of sociology has discussed this idea extensively: "scientific theories and models are not statements of findings; they are actively engaged in the construction of the reality they describe" (MacKenzie, Muniesa, & Su, 2007). This is the reason why financial mathematics gradually became an ingredient of systemic risk (Bouchaud, 2010). This assumption is close to those of Brisset's (2018) account of financial models as speech acts.

The debates about the role mathematics played in the 2008 financial crisis have seen clashes between defenders and adversaries of the use of mathematic modelling

in finance. To shed light on these debates and present them by exhibiting the hinge of the arguments, I will use a metaphor. After the crisis, the defenders of financial mathematics argued that their models are designed for 20° environments ("temperate" markets), so it is not surprising that they no longer work if put into environments where the temperature is close to 50° ("tropical" markets or "financial cyclones"). The assumption of this intellectual position is that awareness of the model's limitations should be enough to ensure it is used appropriately. The financial *Logos* hypothesis makes a different argument: a certain form of written expression of the probable, when plunged into a 20° environment, pushes the temperature up to 50°. In other words, writing down the probable produces the conditions for its own invalidation, since the mathematical statement "speaks" and constructs a "common reality".

My proposition here is that the symbol-based writing down of the probable should thus be considered as "black signs", since black signs are precisely what form the mathematical symbols used to express risk in writing, in accounting entries or actuarial calculations. From this statement we understand that what is at stake in the overall understanding of economic and financial risks is not so much trusting that Mother Nature will absorb any shocks affecting the banks, but ultimately realising how the way the probable is written down in financial models and standards produces our financial crises.

The influence of the mental schema can thus be summarised as follows:

Proposition 3: discontinuities as unexpected consequences of mental models A continuist mental model can generate real discontinuities in financial markets

Financial Logos *and Financial Black Swans*

It is time now to develop my own proposal. In this second part I propose a new way to understand the appearance of financial black swans by connecting them to the words of the financial *Logos*. The deliberate decision to use a specific kind of randomness embedded in the financial *Logos* stems from a school of thought on risk that places simple measures of probability in more complex, uncertain situations. I first present a working hypothesis to differentiate two traditions of financial risk modelling, and then outline the key points of my proposal.

Brownian Finance and Non-brownian Finance

Everyone knows the expression "Euclidian geometry", meaning the "ruler and compass" type of geometry found in Euclid's *Elements* (c. 300 BC), with its rigorous definition of the concepts of "line", "plane" and "area". This geometry was shaped and constructed by major propositions such as Pythagoras' theorem (580–495 BC) and Thales' intercept theorem (624–547 BC). Of course, non-Euclidean geometries also exist. As spacetime is not flat, spacetime geometry is not Euclidian. A non-Euclidian geometry is thus geometry of curved spacetime. This type of geometry has become essential for incorporating the effects of gravity when measuring radio wave frequencies: in particular, the atomic clocks of the satellites in the Global Positioning System (GPS) need adjustments due to the Earth's gravitational field. In other words, without non-Euclidian geometry, no GPS or "satnav" device would work. As Keynes stated in *The General Theory* (p. 26), "The classical theorists resemble Euclidean geometers in a non-Euclidean world who, discovering that in experience straight lines apparently parallel often meet, rebuke the lines for not keeping straight—as the only remedy for the unfortunate collisions which are occurring. Yet, in truth, there is no remedy except to throw over the axiom of parallels and to work a non-Euclidean geometry. Something similar is required today in economics."

I now aim to do "something similar" in finance, and I now propose the following working hypothesis. Just as Euclidian geometry and non-Euclidian geometry both exist, Brownian finance and non-Brownian finance both exist, and non-Brownian finance is just as important to risk management as non-Euclidian geometry is (with the GPS) for managing our travel on earth.

By "Brownian finance", I mean an approach to finance in which the representation of stock price movements—and by extension, changes in economic and financial quantities—uses a stochastic process devised in 1827 by the Scottish botanist, Robert Brown (1773–1858) and described mathematically by Norbert Wiener (1894–1964), Louis Bachelier (1870–1946) and Marian Smoluchowski (1872–1917), known as "Brownian motion". This motion was introduced into finance by Louis Bachelier in 1900. By "non-Brownian finance", I mean an approach to finance in which the same stock price movements are modelled by a stochastic process that differs from Brownian motion, and is to Brownian motion what non-Euclidian geometry is to Euclidian geometry: a way of incorporating consideration of the "depth" of space, i.e., in finance, the depth of the risk. The stochastic processes that gave rise to non-Brownian finance were invented by French mathematician Paul Lévy (1886–1971) and are called "Lévy processes". They were introduced into finance by Benoît Mandelbrot (1924–2010) in the 1960s. The two men who, in the 20th century, were the intellectual forces behind these two approaches to finance, two faces of modelling, were thus Bachelier and Mandelbrot.

The difference between Brownian motion and a Lévy process can be grasped intuitively by looking at visual representations of their trajectories. Although both show irregular movements up and down, including small downturns in the upward movements and vice versa, there is a glaring graphic distinction between the trajectories

followed by the two processes. Financial movements look "smoother" in Brownian motion than in non-Brownian stochastic processes, which have noticeable breaks almost everywhere, whether they are large or small, "jumps" or "discontinuities", in Greenspan' s sense in his 2008 declaration. Even taken to limits, as the time lapse between two points (two quotations on a stock market) is reduced, the discontinuities remain. Lévy processes are discontinuous everywhere. A more intuitive way to express this is to say that the trajectories "jump" all the time, whatever the scale of analysis.

If financial risk is defined as the possibility of not achieving the hoped-for result (either because the investment is lost, or because the gain is less than expected), then Brownian motion paints a picture of a regular, reassuring risk. It definitely exists, but is not too unpredictable because there are no sudden jumps. Non-Brownian stochastic processes, however, paint a very different picture of risk, with much more uncertainty, as the trajectory (of the financial asset) "jumps" all the time. To borrow Mandelbrot's vocabulary, the difference between these two representations of risk is the difference between "smooth" and "rough". In Brownian finance, risk is imagined as "smooth", like the plane space of Euclidian geometry: no breaks, no shocks, no market crashes, no bank collapses. In non-Brownian finance, risk is perceived as "rough", like the curved space of non-Euclidian geometry. Risk has "depth" and "relief", preventing the belief that it can be controlled simply by calculating statistical indicators, such as volatility. When the jump occurs, linear forecasts are found wanting. Hence Greenspan's assertion that "[w]e will never be able to anticipate all discontinuities in financial markets".

Yet for forty years, for reasons more to do with ideology than science, research into risk modelling deliberately ignored the discontinuities generated by the appearance of significant variations (De Bruin & Walter, 2017; Walter, 2017). A convention of continuity thus operated as a single approach to understanding the probable. The risks of mortgage default were modelled by Brownian finance, in the belief that credit risks could be controlled by that calculation: financial disaster followed. Brownian finance and the convention of continuity are dangerous for the real-life economy.

Similarly, the regulators who developed the prudential standards for banks (Basel III), insurance (Solvency II) and portfolio managers (UCITS V) overwhelmingly used this Brownian approach to finance, making it mandatory to calculate equity requirements by the "square-root-of-time" rule, i.e., a rule using one of the cardinal properties of a mental schema built on a Brownian representation of risk. The minimum capital requirement for a 10-day horizon, intended to cushion a firm against a market shock, is calculated as the minimum capital requirement for a 1-day horizon multiplied by the square root of 10. The connection between technical tools for calculations (the square root of time) and the regulatory framework (the doctrine for capital adequacy calculations) can be understood as a quantification convention (Chiapello & Walter, 2016) that structures the world of finance.

From Mathematical Black Signs to Financial Black Swans

If the mathematical language of the probable is understood to "do things with words", is not the production of words relating to Brownian finance ultimately the source of dangerous behaviour that leads to the incidents Taleb interprets after the event as black swans? Is there not an error of interpretation regarding financial crises? This is the question we shall now examine.

It is not possible within the confines of this chapter to present a detailed reasoning clearly establishing how we get from the financial *Logos* to black swans. I simply wish to set out an agenda for future research, by discussing what the principal stages of that journey might be. My proposition is as follows, presented in seven points.

1. A highly specific way of writing down the probable (taking the mathematical form of Brownian motion) that is not corroborated by available data, and is in fact invalidated by almost all the statistical tests performed in financial econometrics over several decades, became established and remained dominant in the field of finance (Walter, 2017). This mathematical modelling of risk can be considered to have influenced professionals' thinking, acting as a "prenotion" as defined by Durkheim (1894), a "schematic, summary representation that we employ in our normal way of life", formed by and for practice—except that this prenotion derives from science itself, not from reflection conducted prior to the science, and has produced a somewhat spontaneous epistemology that forms a mental schema.
2. To explain this spontaneous epistemology, I propose that the mathematical language of risk should be considered as a speech act that "does things with words" as Austin says—except that in this case, the words are the symbols of the mathematical writing of the probable. I have used the name "financial *Logos*" for the "words" about risk that the mathematical risk models "speak" to the professional world through this writing down of the probable (Walter, 2016) and considered that those words about risk expressed the probable through Brownian-based modelling.
3. Applying the classification presented by Austin (1962), I consider that the financial *Logos* has three dimensions, locutionary, illocutionary and perlocutionary, defined as follows. The locutionary dimension is what the mathematical models of the probable say about financial risk (the Brownian expression of modelling). The illocutionary dimension is what mathematical models of the probable do to the financial world in saying what they say about risk via Brownian-based modelling (risk measurements and prudential norms based on the Brownian hypothesis). The perlocutionary dimension is the unforeseen effect resulting from what the mathematical models of the probable say and do about risk.
4. The performative property of the illocutionary act of the financial *Logos* became operational with the introduction of a regulatory and institutional framework that enabled conventional procedures (prudential rules and accounting standards, instruments of calculation) to guarantee the felicity (success) of the illocutionary in rules and calculations. Through this conventional framework, the financial

Logos speaks, and what it says comes to pass: here a certain way of thinking about, treating, quantifying, purchasing and selling risk. This conventional framework has been called the "stochastic convention" (Walter, 2006) for the triple reason that the convention concerns a representation of the probable (Duhem's epistemic accord), perpetuates the status quo as long as this representation exists (Keynes' institutional accord) and could have been different (Lewis' coordination accord).

5. With these institutional and contextual conditions for efficiency, mathematical models of risk under a Brownian representation (locutionary act) have a practical impact on the professional space (illocutionary performative act) as Austin said in his eighth lecture: Brownian-based modelling "convinced [people] that…" (Austin, 1962, p. 102) risk should be managed by… etc. The illocutionary act of the financial *Logos* leads to risk being conceived in terms of volatility.
6. In Austin's view, "the consequential effects of perlocutions are really consequences, which do not include (…) conventional effects" (Austin, 1962, p. 102). This highlights the failures of the performative, as the markets do not seem to conform to the theories (Brisset, 2017): major illustrations of this point are provided by a number of financial crises (the 1987 crash, the LTCM crisis, the tech bubble, etc.) and the crisis of 2008. I consider these failures of the performative as the perlocutionary dimension of the financial *Logos*. Brownian-based modelling "convinced [people] that" risk could be controlled, and maybe even eliminated. Because of this cognitive bias—a kind of cognitive distortion—in the perception of risks, dangerous behaviours were able to emerge in professional practices, leading to one financial meltdown after another.
7. I consider that Taleb's "black swans" arise from the effects of the black signs of mathematics writing down the probable on the white pages of financial mathematics books, which the modellers fill with Brownian-based modelling. To put it differently, like the goddess of fate, Moira, the "black swans" are present but invisible in the illocutionary, and are created by the mathematical words expressing the probable with Brownian-based modelling and risk with volatility. This explains the appearance of a "black swan": something that comes to pass when the illocutionary induces an unforeseen non-conventional effect. Such is the specific dimension of the perlocutionary in the field of finance.

Conclusion

Starting from the rare event of the financial crisis of 2008, I have examined the potential threat of systemic financial crises, and black swan theory developed to explain them and provide a defence against them. With regard to black swan theory, I adopted an actuarial standpoint to analyse the symbol-based writing down of the probable, and a philosophical standpoint that considers writing down the probable as an Austinian "speech act", calling the speech act corresponding to the statements of

the probable in Brownian finance "the financial *Logos*". This identified the symbol-based writing down of the probable as one of the causes of the 2008 crisis and other financial disasters. I have outlined a programme for research in which financial black swans would be considered as a descriptive illusion, an *ex post* reconstruction of events that were partly foreseeable. In short, I propose that financial black swans should be understood as a perlocutionary effect of the financial *Logos*. Hence, if the financial *Logos* represents a threat for societies, it is because of the black swans that it can produce.

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Chapter 15
Threat and Oblivion: Interpreting the Silence Over the Spanish Flu (1918–19)

Maria Luisa Lima and José Manuel Sobral

Introduction

Bill Gates has called the attention of world leaders to the importance of considering health threats at the same level as other national dangers. At the Munich Security Conference in 2017, he said: "Imagine if I told you that somewhere in this world, there's a weapon that exists—or that could emerge—capable of killing tens of thousands, or millions, of people, bringing economies to a standstill, and throwing nations into chaos. You would say that we need to do everything possible to gather intelligence and develop effective countermeasures to reduce the threat. That is the situation we face today with biological threats. We may not know if that weapon is man-made or a product of nature. But one thing we can be almost certain of. A highly lethal global pandemic will occur in our lifetimes" (Gates, 2017). And yet, the sense of urgency we see, for example, regarding terrorist threats is lacking today when it comes to being prepared to fight infectious diseases and, in particular, influenza.

We have just commemorated the 100th anniversary of the influenza pandemic that killed more than 50 million people all over the world. It was the biggest demographic disaster in the 20th century and, for some, the greatest epidemic in human history (Crosby, 1993; Johnson & Mueller, 2002; Phillips & Killingray, 2003). Since then, four influenza pandemics have been identified (1957–58; 1968–69; 1977–78 and 2009–10), but none as lethal as the 1918 outbreak. In 1918, the situation was very different from today in terms of medical knowledge, hygiene or health care structures. In today's highly mobile and globalized society, however, the pandemic would spread much quicker than before. According to the Institute for Disease Modelling (2018), if

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a similar airborne pathogen was to occur today, we would be highly unprepared and 30 million persons around the world would die. It is true that national and international medical surveillance devices are functional, but there is still a long way to go in three crucial areas for the preparedness: vaccination, surveillance, and building response capacity (The Lancet Infectious Diseases, 2018). Why is there such a low level of preparedness for a massive influenza outbreak? Why is there such a huge contrast between the mortality rate associated with this virus and the perceived threat of a repetition of a flu pandemic?

In fact, if it was not for some alarm in the media about flu cases, it would seem that the 1918–19 flu outbreak had disappeared both from history and memory. Susan Sontag stated that there was a "near-total historical amnesia about the influenza pandemic of 1918–19" (1978: 71). Although previous scientific literature had some references to the topic, it was only in the 21st century that the flu started to be a more common subject in both ISI journals and the media (Sherlaw & Raude, 2013). This dramatic episode was not a relevant topic in autobiographies, memoirs, or literary works in societies where the 1918–19 influenza has been documented (Crosby, 2003; Johnson, 2006). In Portugal, where the rate of fatalities was particularly high (more than 2% of the population died due to the flu, Leston Bandeira, 2009), there were only two historical accounts of the pandemic in regional contexts (Frada, 2005; Girão, 2003). Memoirs were rare and, among the major writers, only a few referred to the pandemic in fiction (Sobral, Lima, Sousa, & Castro, 2009). However, the effects of the flu on their families and the places they lived were remembered by individuals and passed on within the domestic group (Sobral & Lima, 2019).

Why, then, is there such a public silence about the flu? How can we explain that a pandemic of such proportions, which caused such alarm, is so absent from the public space a century after? This is the main topic of this paper, which will bring together explanations for this absence using either the traditional approach (competition with the Great War in collective memory) and contributions from different social sciences to understand the responses to the threat. Recent data from the Portuguese pandemic experiences will be compared and contrasted with existing literature from other countries to construct a broader interpretation.

There is no consensus as to the origin of the 1918–19 flu epidemic, but it is clear that it did not start in Spain. It became known as the "Spanish Influenza" because the Spanish press was the first to report its incidence, in May 2018, when King Alfonso XIII became seriously ill. Being a neutral country during the War, the Spanish newspapers did not have to comply with the wartime censors that suppressed the information about the fatalities associated with the influenza, in order to prevent a drop in public morale (Honingsbaum, 2014; Spinney, 2017).

The origin of the pandemic has been located either in a military camp in the Midwest of the United States, in March 1918 or in France and England, much earlier (Killingray, 2009; Spinney, 2017). There seems to be no doubt that the great mobility of the time created highly favourable conditions for its rapid propagation, which took place in three waves, from March 1918 to June 2019. The characteristics and timeframe of the Spanish flu in Portugal were similar to those seen on a worldwide scale and also progressed in three waves. The 1918–19 influenza pandemic was

a deadly and global epidemic—the largest since the Black Death and perhaps the most deadly in the history of mankind. It affected 500 million people—one in three inhabitants of the planet—, and caused an extremely high death rate, which was estimated at between 30 and over 100 million (Honigsbaum, 2014). Although the calculations vary greatly, the values gain significance when compared to the number of deaths in the Great War of 1914–18 (16 million) and World War II (between 50 and 85 million).

The mortality of the pandemic in Portugal also remains uncertain. A total figure of 59,000 deaths exists, but more recent analysis has set these figures at over 100,000 (Correia, 1938; Leston Bandeira, 2009; Nunes et al., 2018), with a mortality rate of 22 per 1000 (Sobral & Lima, 2018). The mortality rate in Portugal was much higher than in other European countries (Ansart et al. 2009).

In this paper, we intend to further explore the reasons for the silence that surrounded the flu pandemic. Although the competition with the War for a place in collective memory is an important argument, we agree with Joutard that collective memories are made as much of remembrances as of forgetting (2013). Following a social memory approach, we will also show that the silence on the epidemic was convenient both because it represented a failure of the State and the science of the time, and because it was underrated: being seen as just another contagious disease. The materials used to construct these arguments were mainly taken from the Portuguese case (Sobral, Lima, & Sousa, 2014), always in articulation with data from other countries.

Interpreting the Absence

Competition with the WWI in Collective Memory

Crosby (2003) proposed the co-occurrence of the First World War as the principal explanation for this absence from public space and memory. In fact, the world conflict struck the same age group as the pandemic. Even among military doctors, who had to face the pandemic in the armies, the war was more important than the flu. This position is shared by British historians of the flu for whom the Great War also had a greater impact on collective memory (Johnson, 2006).

Throughout this text, we will refer to social or collective memory as a distributed memory: the interaction of group members engaged at remembering or the actions of agents to use cultural instruments (archives, narratives, monuments and rituals) in remembering operations. Memory is not a mere persistence of the past in the present, but a product of the present (Halbwachs, 1950), selectively shaped by the circumstances of the social environment that determine what is and what is not memorable and what can—or even should—be forgotten (Zerubavel, 1997). From this point of view, what determines what will be preserved are the "social frameworks of memory" (Halbwachs, 1994 [1925]), the "mnemonic communities" (Zerubavel,

2003), or "communities of memory" (Miztal, 2003). Along with the family, class or religion, the nation is one of those frameworks (Halbwachs, 1994 [1925]; Rigney, 2018).

There are no nations without their own (constructed) memories, emphasizing what can promote unity, silencing what divides and questioning the imagined fraternity of the collective (Rigney, 2018). The nation-state is the main container of the collective memory in the contemporary world (Berger & Niven, 2014). The War deeply involved European states for many years; it changed not only the map of Europe, but the world geopolitical order, and was a trigger of social upheaval, revolutions and the rise of authoritarian nationalism. It mobilized millions of people, provoking a huge loss of life and interfering brutally in everyday life.

Nationalist ideology had a major role in the legitimation of the war, as combatants were supposed to fight on the behalf of the nation. Wars are linked to the destiny of the national collectives and, for this reason, they are seminal events in the processes of the construction and reproduction of national identities (Osborne, 2018). Nation-states, at a central level, and local authorities directed the construction of the official memory of the Great War through different means: narratives (such as school textbooks, popular or academic history), rituals or commemorations (Connerton, 1989), and through setting up what we might call spaces of remembrance or "places of memory" (Nora, 1984): military cemeteries and monuments in the fields of battle, plaques in schools or railway stations, and monuments like the Cenotaph in Whitehall, London. In Portugal, many towns also have monuments to the dead in the Great War, and many town cemeteries have a demarcated plot with graves of combatants in the conflict. Besides, there is a Portuguese military cemetery in Northern France and a Tomb of the Unknown Soldier. From the point of view of the nation-state, the most important event at the time was the Great War and not the flu.

The contrast between the investment in memorialization of the war and what happened with the Spanish Flu is huge. Studies available point out that the pandemics seems to have very few monumental benchmarks (Wilson et al., 2017). It is not part of an "annual cycle of commemorative holidays" evocative of relevant national events, involving the collective in mnemonical socialization in a nationalizing framework (Zerubavel, 2003). There are few books devoted to the pandemic, in contrast to the thousands devoted to the Great War (Quinn, 2008). Without the intervention of the institutions that shape the collective memory (Misztal, 2003), the remembrance of the flu never entered the public sphere and was relegated to the private mnemonic community that is the family. And while some families from the upper-middle classes are powerful enough to invest in the production of memory, the overwhelming majority does not have the means to do so, nor do they consider family memories as important social and symbolic capital (Sobral, 2004). Family memories are usually dependent on oral transmission, and for this reason they are incomparably weaker than those produced and reproduced publicly under State sponsorship.

Although the competition with the War for a place in collective memory is a compelling argument, we shall explore further reasons for the silence surrounding the flu pandemic.

Failures and Sins to Forget

Memory is not an accurate record of what happens, but a construction and selection of events. The same happens with collective memories that are made as much by remembrances as by silences (Joutard, 2013). Events can be forgotten because they represent inconvenient records for the image of a group (occulted memories) or because they are not considered as memorable (insignificant memories). Both processes happened with the 1918–19 Flu.

In autobiographical memory, negative events tend to be more quickly forgotten than positive ones (Walker, Skowronski, & Thompson, 2003). This fading affect bias has been justified by different social, cognitive and motivational processes that help to maintain a positive self-conception and view of the future (Walker & Skowronski, 2009). The same can occur with official memories that probably can more easily retain successes than failures. In the next section, we will detail how the flu can be interpreted as a failure for different groups and thus be less memorable for collective memory.

The outbreak occurred at a time when scientific knowledge about the infectious agent was in a transitional stage and there was no consensus on the nature of the disease. It was not until the 30s that the viruses were isolated (Crosby, 1993). In 1918–19, there were only suspicions that the agent was a virus, and thus the public response was predominantly informed by Bacteriology, a new science with remarkable success (Crosby, 1993; Latour, 1983), which had detected the origin of diseases in the activity of microorganisms at the end of the 19th century (Porras Gallo, 2008; Porter, 1999). In fact, following the work of Louis Pasteur and Robert Koch, the "Germ theory of disease" became a dominant paradigm in the analysis of epidemics, and serums and vaccines were the main intervention tools (Phillips & Killingray, 2003). Based on Bacteriology's successes and advances, the medical science of the time considered infectious diseases as preventable, controllable illnesses, which could definitely be eradicated by scientific advances (Porras Gallo, 2009). Following these victories, health professionals in many countries were claiming higher social recognition (Porras Gallo, 1997).

It is therefore understandable that during a long period in the early stages of the pandemic, there were heated discussions at scientific meetings in Europe on the cause of the disease (Castro, Lima, Sousa, & Sobral, 2009; Crosby, 1993; Porras Gallo, 1997). Besides this, there was intense work in the medical community in some countries, relying on Bacteriology to find a solution to the epidemics with a vaccine (Porras Gallo, 2009). In Portugal, as everywhere, the origin of the infectious agent was debated (Castro et al., 2009; Jorge, 1918, 1919), but Portugal's highest health authority was among those that believed that the cause of the flu was an unidentified 'filter-passer' virus ['virus filtrante'], and that the only remedy would be the discovery of a specific vaccine, as had occurred with smallpox (Jorge, 1919).

The scientific uncertainty hampered a quick institutional response to the epidemics. In Portugal, the cleaning of homes and settlements, and the isolation of the sick (at home, in hospitals, shelters, schools, prisons or hospices) was recommended

(Jorge, 1919). Yet there are only sporadic references in the official guidelines to the closing of schools. Churches or other public spaces (such as major fairs and places of pilgrimage), and public transportation, theatres and cinemas, cafés and markets continued to operate (Jorge, 1919). As in other countries, quarantine measures were imposed, "but only in some places, and in some countries, half-heartedly and with little success" (Quinn, 2008: 137). The measures taken were not enough to prevent the rapid spread of the disease, and the mortality rates were beyond anything imaginable in those days. In an age where medicine was accumulating victories against health problems, this epidemic clearly challenged medical knowledge and questioned medical capacity to deal with the disease. Representing a failure of medical science, it was a serious candidate for amnesia.

By the time of the flu, public health structures all over Europe were trying a new governance model. These structural changes were justified by ideas relating hygienists, sanitary hygiene and sanitization with health (Porter, 1993). State-run services began to supplement former assistance networks traditionally based on religious brotherhoods with specialized hospitals, vagrant and infant assistance, and the first health control networks. With the gradual withdrawal of God from matters of health, there was also a gradual change in the structures and actors that were responsible in this domain (Porter, 1993). In the decade of the flu outbreak, there was a sound awareness of the importance of basic preventive measures to avoid the emergence and propagation of epidemics (Kolata, 2005; Vigarello, 1999), which were also embraced in Portugal. By the end of the 19th century, Portuguese State intervention in the health domain was undeniable, through the use of legislation and a network of public health structures (Correia, 1934; Girão, 2003). However, the political consequences and impact in terms of concrete measures were highly limited. There was little progress in the construction of infrastructures or water, urban sanitation or new prevention and monitoring services, which were limited to the big cities (Correia, 1938).

Responding to the epidemic required an enormous financial effort from the Portuguese State. In a short period of time, the Directorate General of Health mobilized doctors and senior students from Faculties of Medicine, requested private automobiles for medical health service and distributed food and medication (Jorge, 1919). Efforts were made to supply pharmacies with common medications, control their prices and distribute subsidies among the districts affected by the epidemic, etc. Despite this mobilization, the authorities, tremendously lacking in resources of all kind, were overwhelmed by the epidemic's speed and intensity. The scenario was one of a lack of means, of disarray among many of the agents involved in fighting the disease, and of alarm among the authorities and the public (Furtado, 1920). The inability of the public health infrastructure to deal with the catastrophe was a common problem not only in Portugal (e.g., in the USA: Quinn, 2008 and the UK: Honigsbaum, 2009).

Although the health system in Portugal was increasingly under State control, it was clearly insufficient to cope with the situation. For these reasons, the help of the Church and its network of charities had to be welcome. The Church and associated charities played an important role in the fight against the flu. They provided direct assistance in

the treatment of patients and the support for their relatives and orphans, burdened with basic expenses such as housing, food, clothing or funerals. The epidemic provided an opportunity to celebrate Christian values—such as charity—and to show how powerful the Church was as a social organization that could mobilize the civil society to aid the State to fight the disease. The State had the major responsibility for the health system and tried to show agency and independence. The influenza, however, revealed its weaknesses and it was forced to accept the help offered by the religious charities to assist in this crisis. The influenza outbreak was also, at least in Portugal, a clear failure for the weak public health system.

As the historian of medicine, Charles Rosenberg noted, "to accept the existence of an epidemic implies – and in a sense, demands – the creation of an explanatory framework that allows for dealing with his shocking arbitrary" (1992, p. 282). So, besides the actions described above, the Church provided the religious means to deal with the flagellum, both offering an interpretation of its meaning and appropriate prayers and other acts of worship.

From the analysis of the Portuguese Catholic press of the time, we could show that the Church used this epidemic to reinforce its power towards an increasingly secular state (Sobral, Sousa, Castro, & Lima, 2009). In those publications, the explanation proposed by the Church combined secularist and supernatural explanations (Slack, 2005 [1983]). The first could be found in the dissemination of medical and hygienist recommendations either promoting adherence to the Government's guidelines during the Masses or the disinfection of churches and objects associated with cult. The Church thus assumed an important intermediary role, reaching the populations all over the country. Alongside this strategic recognition of medical knowledge, the documents also show the dissemination of a supernatural explanation. This interpretation gave the Church the ability to interpret God's will and to appease His anger through appropriate ritual practices. The allusions to the disease as "God's punishment" were quickly updated for the Portuguese historical context: "the blood that revolutions and attacks have raced in our country, the crimes we witness against religion and its ministers (…) for which we have deserved as punishment the great plague, famine and war" (*Vida Católica*, 1918, vol. IV, no. 77, 5th Nov.). In order to appease the divine wrath, exhortation to conversion and invitation to use the "weapon of prayer", penance and atonement were fostered. Collective worship and processions were promoted. The Dean of Porto concludes in a Bulletin in 1918: "In a word, we must pray and pray a lot. It is to this efficacious therapeutics that we must turn" (*Boletim da Diocese do Porto*, Oct. 1918, no. 4, pp. 70–71).

To achieve this interpretative framework, the Catholic Church in Portugal did not create anything new. According to Susan Sontag, "the speculations of the ancient world made disease most often an instrument of the divine wrath" (1978, p. 39). These supernatural explanations reinforce the idea of divine omnipotence but also the just retribution due to the moral pollution of the community. The Christian Church recurrently used it as an explanation for episodes of plague or cholera in the West (e.g., Delumeau, 1978; Slack, 2005). For the 1918–19 influenza, the use of "God's punishment" as an explanation in Portugal echoes identical Church positions in other countries affected by the epidemic (e.g., Spain: Echeverri Dávila, 1993). With this

widespread affliction of the Catholic devout, it is easy to understand the success of the claims made by three young shepherds in the countryside (Fátima) that the Virgin had appeared to them in 1917, prior to the epidemics. The Virgin of Fatima was explicitly named as a healer by some who thought to have been irrevocably touched by the flu. It was the beginning of a huge success that sustained the strength of the Church in subsequent years. The flu had an important role to support the re-entrance of the Church into public life in Portugal. The supernatural explanation for the disease (God's punishment for our sins) was not specific to this illness. Ultimately, it was the Virgin's Appearance that was memorable, not the epidemic.

Nothing Especially Interesting to Remember

As argued above, the 1918 flu can be seen as a failure to be concealed from collective memory. But it can also fall into another of the categories proposed by Joutard (2013): an insignificant event. In fact, in terms of risk perception, the flu had some attributes that justify its lack of notoriety (Lima, Castro, Sousa, & Sobral, 2009).

The flu was (and still is) a common and familiar disease, perceived as known and controllable (Aragones, Talayero, & Olivos, 2010; Camilo & Lima, 2010), and thus not mobilizing in terms of prevention (Lima, Barnett, &Vala, 2005; Sherlaw & Raude, 2013). The Portuguese press of the time did not particularly highlight the flu's presence. First of all, it had to compete with simultaneous important political events, either internationally (the Great War) or nationally (general strikes, the murder of the President of the Republic, for example). Besides, the outbreaks of contagious diseases were quite common at that time; actually being the main cause of death in Portugal (Correia, 1938). In fact, in 1918, besides the flu, there were successive epidemics of contagious diseases such as typhus, typhoid fever, diphtheria, smallpox and the very serious persistence of tuberculosis. So, it is hardly surprising the flu's effect was minimised, as can be seen in the advertising or comics of the time (Lima et al., 2009).

There are also cognitive and social factors that are at stake in the perception of a health threat. Research into risk perception and health psychology has shown that we are not very precise at estimating the number of fatalities associated with a specific disease (Slovic, Fischhoff, & Lichtenstein, 1985). Neither are we very good at predicting the contribution of different factors to life expectancy (Haslam et al., 2018). In a nutshell, a common illness like influenza is not associated with an important health threat. Even with regard to the A/H1N1 influenza, which many consider a serious illness, almost everyone believes it is unlikely they will catch this disease in the forthcoming flu season (Commodari, 2017). As risk perceptions predict subsequent vaccination (Weinstein et al., 2007), only a minority of the vulnerable population considers being vaccinated (Ramsey & Marczinski, 2011). A systematic review of this topic showed that the appraisal of the influenza threat came from both believing oneself to be at risk from developing H1N1 influenza and concern and worry about the disease (Bisha, Yardley, Nicoll, & Michie, 2011).

The mobilizing and catastrophic potential of a risk is often associated with the existence or the expected number of simultaneous victims (Slovic, 1987). For example, the number of persons killed in car accidents is far superior to those in airplanes. Nevertheless, these are far more disseminated in the news and have a huge threat potential because they are associated with a great number of simultaneous fatalities—catastrophic potential—as opposed to the dispersed car accident deaths—chronic threat. Although there is now an awareness of the dramatic number of 50 million deaths associated with the 1918 epidemic, it was not the case then. Neither the journalists who collected fatality data in different parts of the country, nor the health professionals who produced death certificates had a clear overall picture of what was happening. The victims were discrete cases and not fatalities of a collective event (as in the case of a war—where the battles have names—or in the case of natural disasters were the deaths are synchronized). In addition, the fact that the Government in Portugal had not closed theatres and schools, stopped public transport nor had forbidden other types of collective socialization, made most of the social routines, such as business, continue as usual. It had, then, all the attributes to be seen as a banal form of death, in those days: closer to a partial than a total fear (Jodelet, 2011). Not particularly memorable.

A Private Space for Memories

Finally, official, public memory was dominated by events in the political sphere, and the epidemic was outside its scope. Many of the fatalities occurred at home, and each member of the family mourned their loved ones. No collective meaning, such as the one that could be provided in the case of the Great War by a nationalist was attached to the huge number of deaths, yet the family consequences of the flu were very present in the survivors' experience. This lack of a specific public meaning attached to the disease makes it easier to understand why the Spanish flu survived in family memories but not in public, national ones. It was not connected to the public spaces of memorials, but to the loci, experiential space that the house is (Connerton, 2009). And it was inside the "community of memory" (Mistzal, 2003) of the family that we found reminiscences of the impact of the flu in Portugal.

The flu being confined to the memory of the domestic sphere had another effect. Shteynberg (2010) highlighted the importance of social tuning (assumed experience of an experience by similar others) as a mechanism to reinforce memories. The experience of flu, as with the experience of disease and death in general, took place in great measure inside the private sphere of the family, and the absence of collective meaning made it difficult to engage in social tuning and hence to promote the public remembrance of the event. This line of reasoning makes it easy to understand that the flu is absent in the collective memory of the nations, but it was not forgotten in the memory of the individuals and families.

Conclusions

The Spanish flu was a health catastrophe of huge proportions, but it remains as a threat more in the private than in the collective memory. In this paper, we have tried to bring explanations from different approaches to understand this absence. We claim that besides the co-occurrence with the Great War, other factors have contributed to the silence over it. From a social memory approach, we showed that the flu was less memorable, as it represented a failure both of the medicine and the health services, and an opportunity for the Church to restore its interpretative power over the diffusion of the rationalist, agnostic and even atheistic discourses connected to the republican worldview. Besides, in terms of risk perception, the flu (both then and now) is represented as a banal risk, which does not mobilize for action. All these factors maintained the remembrance of the flu linked to private, family memories and traumas (Mistzal, 2010). According to the data collected and our interpretation, the silence and oblivion that surrounded this pandemic was thus a consequence of the threat it posed, both to the status quo and to the health system of the time.

The interpretations of this paper are mainly based on the Portuguese case. However, as we have systematically shown in our analyses, very similar data exists for other countries. We hope that our research's comparative approach can be continued in other countries, and that the 100th anniversary of the Spanish flu can give it a more vivid place in our collective memories.

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Chapter 16
Collective Responses to Collective Traumas: Synchronization and Collective Resilience

Bernard Rimé

Synchronization and Social Resilience. An Analysis of Collective Responses to Collective Trauma

The purpose of this chapter is to document what happens in societies once threats do actually strike. We will examine the collective responses that develop once a community, a society or a nation faces a collective trauma such as an accident, disaster, or terrorist attack. Under such conditions, the responses of community members are divided into four types. These are (1) the search for information and the dynamics that link public demand and media production, (2) myriad conversations between individuals in which everyone talks about what has happened and listens to others talking, (3) gatherings attended by a significant part of the concerned population, and (4) manifestations of generosity and openness to others that emerge spontaneously after such an event. In this chapter, we will try to clarify the reasons behind these different collective responses, examine their interrelationships, and define the functions they serve when communities are being shaken.

Collective Responses to Collective Emotional Events

Search for information. Television is the first vector of information in the wake of a major collective event. Its power to capture attention is considerable. Of the 2729 adults interviewed in the three weeks following the events of 11th September 2001 in New York, only 6 people reported never having been exposed to television news (Silver, Holman, McIntosh, Poulin, & Gil-Rivas, 2002). Respondents who had

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followed television coverage for less than one hour a day were in the minority (15%). The majority of respondents (43%) had followed it for 1–3 h a day. But 26% watched it from 4 to 6 h a day and 16% for more than 6 h a day. Television is far from being the only source of information in the event of a collective trauma. In the aftermath of a collective emotional episode, daily newspapers devote most of their output to information, photographs, comments and analyses about it. For a time, newspaper sites and other digital media are overcrowded. In sum, the emotional events that strike the community trigger a real "hunger" for information among its members.

Talking. Emotions generated by the collective event incite everyone to talk about it with people around them (Rimé, 2009a, 2009b). Likewise, the latter share how they feel about what happened. The collective event thus mobilizes all conversations. While personally witnessing the San Francisco earthquake in 1910, William James was probably the first author to note the extraordinary manifestation of this need to talk among disaster survivors. In his correspondence with Pierre Janet, he reported that in the rescue tents, it was impossible to sleep at night because of the endless chatter (Janet, 1926/1975, p. 326). Pennebaker and Harber (1993) conducted the first empirical study on the verbalization of emotions in the context of collective traumas. They interviewed residents of the San Francisco area after the 1989 earthquake. Over the next week, respondents reported that they had thought about the event more than 10 times a day on average and had talked about it almost 8 times a day. In the week following the March 2004 attacks on Atocha station in Madrid, residents of Spain's main cities were asked about their reactions to the event (Rimé, Páez, Basabe, & Martínez, 2010). All had engaged, and most often repeatedly, in conversations in which they spoke and listened to others talk about the event. In a study of the Paris residents' reactions to the terrorist attacks of 7th January 2015 (Pelletier & Drozda-Senkowska, 2016), the majority of participants (63%) reported that they first spoke about the event within 15 min of learning about it. As in the previous study, respondents reported that they had both talked about and listened to others talk the event at length.

Gatherings. After a collective emotional event, people do not just talk. They also feel the need to gather in the collective space and manifest their own participation in the shared emotion. Following the Madrid attacks in March 2004, protest marches spontaneously took place in all Spanish cities, and it is estimated that about 25% of the population took part (Paez, Basabe, Ubillos, & Gonzalez-Castro, 2007). Over the weekend following the Paris attacks in January 2015, marches brought together four to five million demonstrators across France, an unprecedented event ("Contre le Terrorisme", 2015). The collective memory will particularly remember the monster demonstration held in Paris on 11th January, in which some 50 Heads of State and Government linked arms around the French President.

Prosocial responses. In the case of a major negative event, solidarity and generosity are displayed in abundance—and sometimes even in overabundance. Following the attacks of 11th September 2001, in New York, financial donations from individuals and corporations to charities reached $1.9 billion. This amount exceeded all other generosity recorded in the United States previously (Lewis, 2002; Morgan,

Wisneski, & Skitka, 2011). The tsunami that struck Southeast Asia on 26th December 2004 generated an even greater international outpouring of generosity, estimated at more than $7 billion. Brown and Minty (2008) demonstrated that the importance of donations is closely dependent on media coverage of the collective event. For example, the addition of a 700-word story in the New York Times or Wall Street Journal increased the average daily donation by 18.2%.

Conclusion. Emotional events strike a community like a shock wave. For a few days, the members collectively focus on the media, there is a vast amount of verbalisation, and they gather in large assemblies. Such responses are generally referred to as both "emotional" and "collective". But is it appropriate to talk about "collective emotions" in this regard?

From Individual to Collective Emotion

From our perspective, emotion is not limited to the mere implementation of emergency responses to which psychology generally focusses most. More fundamentally, an emotion signals the presence of gaps or limitations in the beliefs, knowledge and action systems on which the subject relies to adapt to the world and pursue their goals (for review, Rimé, 2009a, 2009b). Emotion, when of negative valence, therefore involves an experience of loss of both meaning and confidence. It also comprises attempts to restore meaning and trust, through cognitive processing of the episode and the quest for social support (Rimé, Philippot, Mesquita, & Boca, 1992). In this respect, there is a major difference between individual emotional experiences and collective ones. In the former, meaning and trust continue to prevail in the social environment surrounding the destabilized person. In the case of a collective trauma, the state of affairs differs considerably. When a human community is struck by an event that brutally takes a share of human lives, the collective veil is lifted. The violence of the world, the precariousness of human bodies, the finite nature of existence, and the blind force of fate stand out for all to see. Community members discover themselves, for a time, in their nakedness and insignificance (Becker, 1973; Pyszczynski, Solomon, & Greenberg, 2003). Collective traumas abruptly denounce the most fundamental assurances that individuals collectively weave (Janoff-Bulman, 1992). Their compulsive search for information following such an event testifies to the serious loss of sense and the frantic need to give meaning to what they've experienced. Durkheim (1912) pointed out that societies owe their existence to the beliefs that their members share. Faith in these beliefs provides individuals with the strength and confidence they need to face the world. He added that shared beliefs are nurtured by the interconnectedness of society's members. In short, it is beliefs that make society and it is interconnected individuals who make beliefs. By striking at the heart of these beliefs and, in particular, by affecting the presumptions of immunity, coherence, control and optimism that prevail in common life (Janoff-Bulman, 1992), a collective trauma not only exposes individuals and arouses their anxiety but also threatens the very existence of the social system that binds individuals. On the horizon of collective

trauma, members of a society experience the threat of disintegration, anomie and abandonment.

Such an analysis can provide an answer to the question of "collective emotions". When a life event affects people individually or in small numbers, social life continues around and carries them along. When a major collective event strikes, however, everyone turns to others and they face the same anguish as their own. The social consensus crumbles and common life can therefore only take a step back. The implementation of extraordinary collective processes is inevitable. Thus, where an entire community is affected, individuals are indeed the first seat of resulting emotions. Nonetheless, cognitive components (the collective search for information and meaning) and social elements (gatherings, conversations) of their emotional responses will engage in high-density processes of reciprocal social influence. The latter transform the individual experience into something that everyone shares. Therefore, in the end, collective emotional events generate what must be considered as a collective emotion.

Collective Gatherings and Synchronization

Studies examining the consequences of participating in collective gatherings in response to acts of terror are rare. In their longitudinal study of the Spanish respondents following the 11th March 2004 attacks in Madrid, Paez et al. (2007) measured their participation in collective gatherings during the first week after the attacks. They then contacted them again during the third and eighth week after the events to collect their responses to various questionnaires. Results showed that the degree of participation in collective gatherings significantly predicted the level of felt social integration measured after three weeks, as well as the level of hope, solidarity and trust measured after eight weeks. These results showing increased social integration such as participation in rallies following dramatic events were supported by subsequent studies of participants in collective gatherings of the "Gacaca" transitional justice procedures introduced in all Rwandan communities after the 1994 genocide (Kanyangara, Rimé, Philippot, & Yzerbyt, 2007: Rimé, Kanyangara, Yzerbyt, & Paez, 2011). These studies confirmed that, compared to control non-participants, participants evidenced significant increases in indicators of social integration. These various observations led us to return to Durkheim's ideas.

Collective gatherings and opening to others. More than a century after his classic work on *The Elementary Forms of Religious Life*, it is still unthinkable to tackle the question of collective gatherings and their consequences without calling on the views developed by Durkheim (1912). Although focused on religious practices, his analysis is applicable to every concentration of individuals, as Moscovici (1981, 1988) rightly pointed out. In social rituals, people gather standing or marching. They display symbols of the group or nation (flags, emblems or badges) and develop coordinated behaviours (singing, shouting, words or phrases, shared movements). Durkheim considered that in such conditions, the consciences of individuals echo each other. The

expression of emotions by some immediately arouses similar emotions in others, so that a mutual emotional stimulation develops. This circular process favours the development of a "collective effervescence", a concept by which Durkheim referred to the moments when shared emotion reinforces the sense of unity and social integration. Participants experience their similarity. The importance they attach to themselves is being reduced while their collective identity is being strengthened. In this way, they open up to one another.

Synchronization and opening. In recent years, the experimental literature in psychology has been profuse in studies examining effects of movement synchronization on psychosocial variables such as cooperation, prosocial orientation, or the feeling of fusion with the group. For example, in one of the first studies, Wiltermuth and Heath (2009) showed that participants who had acted in synchronization with others (e.g., walking around the campus in groups of three; listening to music in groups of three, while performing a task requiring a certain degree of synchrony) then behaved more cooperatively in financial games, compared to participants with control conditions. These participants' preference for cooperative rather than competitive behaviour was maintained even when this choice resulted in financial losses for them. Wiltermuth and Heath (2009) also showed that body movement or the deployment of muscle force were not necessary conditions to produce such an effect. Singing together sufficed.

Many other studies have followed this pioneering work, with dependent variables assessing blurring of individual boundaries, openness to others, prosocial attitudes (perceived fusion of self and others, wholeness, unity, closeness, similarity, attraction, trust) or prosocial behaviours (cooperation, conformity, helping behaviour, attention to others such as memory of information about others or facial recognition). A recent meta-analytical review of this literature (Rennung & Göritz, 2016) found no less than 42 studies including a total of 60 experiments in which such variables were measured after inducing either movement synchronization (passive or active) or synchronized sensory stimulation. The review concluded that interpersonal synchrony significantly increases prosocial attitudes and behaviours. The overall effect observed was of moderate amplitude. It was not affected by presence or absence of musical accompaniment, nor by number of actors or degree of familiarity between them. It was also irrelevant whether the movements in question were of an active or passive type or whether they were motor synchronization or synchronized sensory stimulation. These are therefore quite stable effects.

Multifaceted synchronization. These findings from synchronization induction are of great relevance to our examination of social responses to collective emotional events. By showing that interpersonal synchronization leads to openness to others, they come close to Durkheim's (1912) observations on effects of collective effervescence. How is it that interpersonal synchronization and emotional excitement in crowds entail similar psychosocial effects?

We consider the emotional excitement that develops in a collective gathering as a multifaceted process of social synchronization (Páez & Rimé, 2014): (1) participants converge towards a specific place at a specific time; (2) they go there sharing the same concerns and goals that they reinforce each other as the event develops;

(3) they share the same cognitive and emotional responses in the presence of the symbols deployed (flags, emblems, leadership figures); (4) they focus their attention together on the same target (podium, stage, altar, speaker, officiant); (5) they implement synchronized collective behaviours (shared gestures, shared movements, movements and walking together); (6) their synchronized behaviours are accompanied by coordinated expressive manifestations (singing together, screaming, saying words or sentences together, making music, dancing, etc.) in such a way that the mental, vocal, and physical activity of each participant matches that of the group. Last but not least, all these elements stimulate the emotional excitement of the participants, so that they experience similar emotional states.

We believe that emotions are the most powerful source of participative effects in collective gatherings. Because of the ease with which emotions are reflected, shared and spread among people who are co-present (Gallese, 2001; Hatfield, Cacioppo, & Rapson, 1994; Iacoboni, 2009; Rimé, 2007), emotional synchronization develops and leads to the perception of similarity and unity: "we feel the same thing, we are the same, we are the same, we are one". The group's identification is, therefore, markedly reinforced (Collins, 2004; Rossano, 2012; von Scheve & Ismer, 2013). Mere movement synchronization without emotion might suffice to produce such effects. But the emotional excitement and perceived emotional synchronization in collective gatherings has the power to considerably amplify them.

Empirical validation. The Durkheimian model of the effects of collective effervescence and the specific hypothesis about the role of emotions in this context were verified in four coordinated studies, two of which were correlational, one was semi-longitudinal and one implemented an experimental design (Páez, Rimé, Basabe, Wlodarczyk, & Zumeta, 2015). They aim assessed effects of participating in two types of collective gatherings, i.e. gatherings with positive emotional valence (folk marches) or negative valence (socio-political protests). Results consistently confirmed that gatherings strengthen collective identity, identity fusion with the group and social integration. They also showed that participation in such gatherings enhances positive affects, self-esteem and a sense of personal and collective effectiveness. In addition, participants reinforced social beliefs shared by the group. Finally, in accordance with a central principle of Durkheimian theory, the emotional communion or synchronization perceived by the participants ("we are one") mediated each of the observed effects. Thus, greater perceived emotional synchrony was associated with stronger identity fusion, more intense positive emotions, higher self-esteem, and greater adherence to shared beliefs. These results confirmed and complemented those recorded following Madrid attacks (Paez et al., 2007) and the Rwandan genocide (Kanyangara et al., 2007; Rimé et al., 2011). They strongly support the adoption of Durkheim's model for the analysis of such events.

Conclusion. Interpersonal synchronization and participation in collective gatherings both entail widening the self or blurring personal boundaries between participants. They become more open to self-transcendent experiences in the form of increased social integration, feelings of unity, and prosocial behaviours. These findings open the way to a new interpretation of these gatherings, in terms of collective

synchronization. They also shed light on what brings people to gather when a collective trauma occurs. Such gatherings respond to their experience of challenged beliefs and the resulting loss of meaning and threat of anomie. The collective dynamics described by Durkheim (1912) are essential as tools for affirming and consolidating threatened beliefs and the social order in peril. Crowd gatherings engender conditions for a collective synchronization that is at once sensory, cognitive and behavioural. It is further exacerbated by the spiral of emotional synchronization. The collective experience causes the blurring of individual boundaries and opens participants to their social environment. They are thus receptive to social influence and to any speech or slogan proper to reinforce shared values and beliefs. At the same time, they become prone to prosocial behaviour.

Peer to Peer Communications and Social Sharing of Emotions

The above elements therefore make it possible to shed light on the manifestations of generosity that we have seen occur in abundance—and sometimes even in overabundance following collective traumas. However, one question remains. Though crowds that gather in such circumstances usually include many participants, the latter still represent only a minority of the population. The collective processes just described do not apply to the vast majority. This raises a fundamental question. What about the management of the collective event for the many who do not take part in crowd movements? Will this majority remain outside the process of social integration, pro-sociality, and the strengthening of common beliefs? If this was the case, collective trauma would have catastrophic consequences for the community, as it would inevitably lead to a social divide. In reality, the collective gathering process is not the only one implemented after a collective trauma. An interpersonal process of comparable social efficiency complements it.

Reciprocal stimulation and emotional spiral. As soon as a traumatic event affecting the community is announced, each of its members simultaneously becomes the seat of four different processes: (1) reading the media; (2) thinking of the event; (3) talking and sharing emotions with those around him and (4) listening to others on the same theme. Each of these four moments has the same effect of reactivating emotions and, thus, of reinforcing the need for sharing emotions (Collins, 2004; Rimé, 2007). Since, for a while, such reinforcement occurs non-stop in every member of the community, the social sharing of emotions develops as a chain reaction. This process that takes place in peer-to-peer exchanges quickly sets up an emotional spiral in the community, developing an analogue of Durkheim's collective effervescence. Durkheim stated that such excitement occurs when all the individuals in a group are brought together to communicate "in the same thought and action" (1912, p. 553). Their rapprochement then gives rise to "a kind of electricity that quickly transports them

to an extraordinary degree of exaltation" (1912, p. 308). According to our analysis, a similar process develops in the course of interpersonal communication.

Social sharing of emotions and solidarity. The view that the paroxysmal sharing of emotions triggered by a collective trauma contributes to the synchronization of individuals in the same way as gatherings is supported by findings of longitudinal study conducted in Spain after the 2004 attacks in Madrid (Rimé et al., 2010). Respondents' participation in the social sharing of emotions during the first week after the attacks predicted their level of social integration, their perceived post-traumatic growth and their positive affects assessed several weeks later. These results were close to those observed by Paez et al. (2007) based on the degree of participation of respondents in collective demonstrations triggered by the same attacks.

At the time of this study, it would have been difficult to access the content of the social sharing exchanges. The numeric evolution has now opened new doors to the investigation. Today, in the event of a collective trauma, a significant part of the social sharing of emotions from person to person occurs on social networks and, in particular, on Twitter. This evolution allows a new approach to our hypothesis. If it is correct, the content of the social sharing caused by a collective trauma should reflect effects similar to those that have been highlighted following collective gatherings. In particular, it should reveal an emergence of prosociality and a reaffirmation of common values. Garcia and Rimé (2019) tested this hypothesis at the time of the terrorist attacks in Paris on 13th November 2015. The day after these attacks, and for a period of a month, we collected API tweets with hashtags linked to these events on the Twitter search engine. After having identified nearly half a million users, we selected those located in metropolitan France. In order to have both baseline and follow-up data, we then selected users for whom we had Twitter activity from 1st April 2015 to 30th June 2016. We have thus built a database totalling nearly 18 million tweets from 62,114 user accounts, all residing in the country directly affected by the attacks.

This database was subjected to a lexical analysis using LIWC software (Pennebaker & Ireland, 2011; Piolat, Booth, Chung, Davids, & Pennebaker, 2011). We observed the frequency of emotional terms to deviate markedly from the day of the attacks, confirming the immediate triggering of a powerful social sharing of emotions on Twitter. This deviation gradually returned to the baseline a week later. We then examined three solidarity indicators. One was the LIWC category "social processes" in the LIWC software, which contains terms that refer to other people ("someone", "man"), relationships ("friend", "son") and social activities ("discussion", "celebration"). A second indicator used the LIWC category "prosocial behaviour", composed of terms such as "care", solidarity, or "NGO". The third indicator aimed at reaffirming values, and it was constituted by the simple inclusion of the terms "freedom", "equality", "fraternity", prototypical values of the society affected by the attacks. For each of these three indicators, a major deflection was found on the day after the attacks, thus reflecting an emergence of solidarity indicators. Their levels then decreased in a progressive manner in the following days. A distinction was then made among users who had shown "high emotional synchronization" or "low emotional synchronization", based on their use of emotional terms in the two weeks following

the attacks relative to their individual baseline level for these words. The two groups were then compared for their use of solidarity terms. Prior to the attacks, both groups had used these terms with comparable frequency. But after the attacks, individuals in the "high emotional synchronization" group had a much higher average use of these terms and this marked difference between the two groups continued several months after the attacks. Such findings thus support the view that emotional synchronisation performed through emotion sharing on a social network is associated with superior levels of indicators of solidarity, as is the case with emotional synchronization in collective gatherings.

General Conclusions

Our purpose was to document what happens in societies when threats become reality. We stressed that a collective trauma first triggers a powerful search for meaning among members of the concerned community. This movement responds to the deleterious impact of such events on fundamental beliefs and values they share and on which their social bonds rested. By threatening the collective fabric, emotional events that strike collectively generate powerful feelings of anxiety. We examined two major responses that develop spontaneously as soon as such a threat emerges: crowd gatherings and the interpersonal process of social sharing of emotions. Two theoretical concepts helped us to clarify what is at stake in these two types of events. On the one hand, Durkheim's classic concept of collective effervescence describes the reciprocal emotional activation that develops in collective gatherings and the emotional communion that it fosters. Durkheim saw it as eliciting openness to others and social integration. We showed that this classic vision is now supported by empirical work. On the other hand, a new concept has led to demonstrate that interpersonal motor or sensory synchronization also elicits openness to others and social integration. The comparison led us to a new reading of the two types of manifestations. Collective gatherings and the interpersonal process of social sharing of emotions are viewed as two complementary tools to synchronizing members of the affected community. Through their mutual stimulation, and in particular through the resulting emotional synchronization, these members reweave the network of the societal fabric. They reaffirm their common values and beliefs and they restore solidarity and social cohesion. Both manifestations can therefore be considered as tools at the service of collective resilience (Drury, Cöcking, & Reicher, 2009). Future studies will need to further specify their contribution and, in particular, delimit the time span of their effects. But there is already evidence that these effects are not limited to the short term.

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Chapter 17
Conclusion—Final Contributions to a Research Agenda on Social Threats

Ewa Drozda-Senkowska

Societies Under Threat: A Multidisciplinary Approach is a book that represents a considerable challenge, given its subject and its issues. Dealing with threats and new phenomena, hitherto poorly identified and explored, it begins by revealing two convictions. The first is that the emergence/appearance of threats, in virtually all areas of life, requires a questioning of the way we view current societies. It invites us especially to "rethink the risk society" and to develop a new conceptual framework planned around this emerging theme. The second is that such a framework cannot be developed further, and much less be put to the test, within a single discipline. The diversity, the scope, and therefore the complexity of the field we are dealing with involves an encounter and a dialogue open to several ways of considering and questioning, which can only be done through a multidisciplinary approach.

A group of European researchers from different disciplines, ranging from psychology, philosophy, sociology and history to ecology, biology and physics by way of anthropology, economics and science, have taken up this challenge to suggest an outline of this new approach.

It is along the lines of a draft or a "preliminary outline in general terms" that we find another challenge of "societies under threat", which is to define and to perfect the initial design thus transforming it into a multidisciplinary research project(s). Hence the purpose of these conclusions is to identify some of the paths or directions that such a project might take.

The book is organized into three questions concerning the ways of thinking about (Part 1), establishing (Part 2) and confronting (Part 3) threats. They lead to a very encouraging state of affairs. The analysis in terms of threats is indicative of phenomena and processes that are new or, until now, have been less visible, more difficult to grasp: a clear demonstration of the validity of the concept. Reaching this conclusion was by no means a foregone conclusion, because although the term "threat" is

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omnipresent in the public sphere (see Chap. 2), it is seemingly absent in analyses that the social sciences propose of our societies. The importance of this divergence varies according to the discipline or the lines of research and raises a fundamental question. Given that it is a "buzzword" that accounts for the evil of our times, and is so strongly established in the public sphere, is threat a relevant notion to describe phenomena and processes whose reasons for emergence would greatly exceed the attractiveness of "a word"? The book addresses this issue directly in Part 1, although it permeates the entire work, by analysing the conditions of threat emergence and by the comparative analysis of the notions of threat and risk.

The idea put forth, by almost all the authors, is that the emergence of the threat phenomenon reflects a profound change in the conditions of our existence. What has changed is not uncertainty about the future, which has always existed (see Chaps. 2 and 6), but the "unprecedented extension and massification of uncertainties" (see Chaps. 2–6). The acceleration and proliferation of unpredictable phenomena affect, in one form or another, all sectors of our lives. Their magnitude is therefore unprecedented. However, as long as the unforeseeable remains delimited (or seems so to us), it does not pose a threat. It is considered a risk or a crisis, local or roughly global, because we think we have the resources to predict and prevent it. Our epoch, which heralds the beginning of the awareness of the transcendental character of the damage caused, discovers, with the magnitude of the unpredictable phenomena, their unavoidable character and with it the question of the (im)possibility of going back in time (see Chap. 4).

The key assumption made at this point is that it is the unpredictable and inevitable character of the arising phenomena that gives them a threatening nature. Little or nothing seems like before. The frameworks that up to now have been used to anticipate and act accordingly are called into question or become obsolete whether individually, collectively or institutionally, even at national level (see Chaps. 3, 6 and 13). The threat exposes a semantic disruption (*rupture du sens*) just waiting to be "renewed in meaning" (*rechargée en sens*) (see Chap. 7), thus creating an extremely favourable context for any form of influence and/or manipulation (see Chap. 5), of intervention (see Chap. 2), but also of radicalization (see Chap. 7).

The comparative analysis of the concept of threat and of risk proposed in this work (which is, to our knowledge, currently one of the most in-depth analyses) provides many elements to refine and/or clarify this general hypothesis.

In the opinion of all the authors who, to varying extents, directly discuss the notions of risk and threat, and the question of their interconnections, these often mixed notions are, in fact, quite distinct. At the very least, it is possible to indicate a number of dimensions on which they differ.

If the notion of risk, such as catastrophe, peril or even danger, refers to an externality in relation to the subject, individual or collective, then the notion of threat, such as stress, apprehension or fear, etc., refers to the frame of mind that is experienced or the feeling one has when faced with risk, danger, peril or disaster (see Chap. 2).

Usually, the concept of risk is analysed in terms of probability, where risk refers to the likelihood of some negative event and in terms of effects, where it refers to the extent of anticipated detriment (usually a numerical estimate) associated with

the negative event (see Chap. 6). In this sense, risk, which is necessarily associated with uncertainty and concerns the possibilities that may be characterized by affect, is considered as quantifiable, predictable and controllable. It appears "under the registers of initiative, action, undertaking, of an intentionality open to the widening of possibilities" (see Chap. 3). Although some threats may refer to natural or accidental phenomena that do not necessarily entail human responsibility, the way in which the concept of threat is generally approached, associates it with a warning and relates it primarily to a relationship between a threatening agent and a target that is threatened by a purposive intention to harm (to disturb, to change, to challenge, to damage). It assumes, simultaneously, a degree of inevitability in its occurrence, uncertainty in its actualization, and unpredictability in its effects (see Chaps. 2 and 6). Contrary to risk, threat is not necessarily associated with uncertainty, so it can also be founded upon an absolute certainty that something undesirable will occur, but which is yet to happen. Thus, threat entails the anticipation of the future, a projection of the less distant future, that is basically uncertain (e.g., risk), or totally certain. But, unlike risk, it must be inevitably associated with an aversive psychological or societal reaction (for example fear, anger, or hatred; (see Chaps. 6 and 16). Threat therefore appears as an aversive response, with an accompanying emotional affect, to what is not necessarily present (see Chap. 5), but which we think we cannot escape. This seemingly paradoxical aspect of experiencing threat (strong emotion over something non-existent), leads to the idea that for our reaction to what is undesirable, yet unmanifest, to be turned into a threat, the undesirable must manifest itself, in one way or another. Thus, threat occurs in the category of "a power relationship, an outgrowth of power, the imprinting of fear and the way it can potentially be manipulated, revived and heightened" (see Chaps. 3, 4 and 6). This category refers to what constitutes the basis of its definition; threat is a reaction that is not automatically established. It constitutes a state/object still under development. In this sense, threat refers to both the process of its establishment and its result (see Chaps. 2 and 6). For this reason, it is also an ultimate object of manipulation.

Not being "automatically established", threat therefore implies intense cognitive interpretation activity (see Chap. 2) both to name/designate what one is confronted with (see Chaps. 9–11), what one feels and/or thinks (see Chaps. 8, 9 and 16) and what one does or thinks one can/must do (see Chaps. 12–14). However, interpretation never happens in a vacuum. It is socially, culturally and historically specific (see Chaps. 3, 8, 10, 12, 14, and 15). By its hypothetical nature, interpretation requires validation. Social sharing, both in its basically spontaneous form (see Chap. 15) and its organized, even institutionalized forms (see Chap. 13), is the best method. Social thinking, like social memory (see Chaps. 9 and 15), does not need truth, it mainly needs to be shared. The book raises awareness of the functions, forms and places of social sharing, whether through traditional broadcast networks such as traditional media (see Chaps. 2, 8 and 15) or more modern ones, such as the flourishing virtual social networks (see Chaps. 2, 5, 6 and 16). Some see this growing power of communication as the beginning of the post-truth era, a threat in itself to our societies (see Chap. 5).

Let us return to the establishment of threats. Even if, as we have just seen, this question spans the entire work, Part 2 explicitly deals with it. One of the central insights that emerges from the contributions gathered together here is the original meaning of the notion of threat. Treated as a warning, threat refers to the relational field. Indeed,—whether it is the sharing of the same name (see Chap. 9), a minority group (see Chap. 10) or a phenomenon that concerns climate change (see Chap. 8), terrorism (see Chap. 7) or the influx of immigrants and refugees (see Chap. 11)—a threat is located (or ends up being located) in a social relationship between individuals, social or national groups and, more generally, in a system of relationships that makes us interdependent. This interdependence extends to all kinds of goods: well-being, material or symbolic goods, individual or collective goods. The (real, perceived or imagined) infringement upon these goods, regardless of their nature, is a sign of a questioning or a disruption of the established relationship and the appearance of a new reality that is feared and which seems suspicious (see Chaps. 6 and 11), but which must be made readily understandable.

The establishment of threat as a representational process (e.g., renewed in meaning *{recharge en sens}*) would therefore be performed in a context defined by social relationships and dedicated to the goals that they entail for the present and the future. This context, as always marked by current events, culture and history, is never neutral (see the naming dispute, Chap. 9). It constitutes the more or less fertile ground for associating a fact or a phenomenon with threat. However, the current context, dominated by the spectacular incidence of new negative and intelligible realities, is, in Europe and elsewhere, that of the lack of confidence in the political process, politicians, and democratic institutions, described as social unrest (see Chaps. 3 and 11). The analytical idea is to propose a conceptualization of social unrest in terms of social alienation that refers to a "set of perceptions and feelings that intersect with different sectors of society and encompass the functioning of society as a whole" and, on the more operational level, to "the feeling of dissatisfaction with life, the perception of lack of control and distrust of nuclear institutions of the social system" (see Chap. 11). Its impact, beyond the negative attitudes towards a new fact or a fact whose dimensions seem new (cf. the influx of immigration and refugees), is reflected in its perception as a threat and legitimizes that we react to it as we would to a real threat (see Chaps. 10 and 11).

The book also puts forward a very interesting hypothesis on the processes by which what is threatening ends up either being included or excluded from this (these) report(s). It supposes that two elementary ways of social thinking—symbolic thinking and stigmatic thinking—would be involved in the threat development (see Chaps. 2, 9 and 10). Their purposes are different, even though each one entails firmly establishing the unknown, the new or the strange in the pre-existing worldviews and beliefs, to make it "familiar", by "assigning it a priority (time), value (evaluation), hierarchy (classification) and name (naming)" (see Chap. 9).

The so-called "inclusive" symbolic thinking, which seeks to maintain a link, is characterized by a kind of "socio-cognitive hospitality". The unknown ends up being reconciled and thought of in the categories used to think of the "inside". Thus, when the threat (e.g. climate change) is firmly established in the categories in which we

think of our life and ourselves, whether they are related to the political sphere (e.g., political challenge) or the moral sphere (e.g. moral issue for all humanity), it is "inside". It becomes a government's matter or it turns into everyone's business, but remains an internal matter (see Chap. 8).

Stigmatic thinking, called "exclusive", considers the unknown and the new as strange. This type of thinking excludes the unknown and places it outside. What creates the threat (e.g., Gypsy minority) is thinking in categories that do not allow any "hospitality", that stigmatize (e.g., ontologisation as savage, as impure) and that signify a severing of all links, a failure and/or a refusal of "domestication". "This form of representation in turn intensifies discrimination, which leads to a greater perception of threat" (see Chap. 10). Such representation is therefore often used to legitimatize reactions to the threat (cf. negative attitudes, discrimination, and the use of protectionist, restrictive policies that maintain the established order; Chaps. 10 and 11).

However, seeking to make the threat understandable is also to highlight one's vulnerability, that of one's group or that of the system in which one lives (cf. losing purity, Chap. 10; losing name exclusivity, Chap. 9; no longer being able to count on the protection of the State, Chap. 3). In other words, to find oneself exposed and weakened. This feeling, which goes hand in hand with a disruption of meaning and loss of confidence, induces negative emotions (cf. fear, moral indignation). Indeed, emotion and negative feelings indicate "the presence of gaps or limitations in the beliefs, knowledge and action systems on which the subject is related to the world and pursues his or her goals" (see Chaps. 5 and 16). As such, they also represent powerful drivers of action to rediscover meaning and confidence and to ward off the threat. Thinking about climate change (see Chap. 8), as a moral issue for all humanity, emphasizes the vulnerability of all, induces other-centred emotion (cf. empathy with the victim of climate change, moral indignation) and combines ecological practices with altruistic motives (other-centred). Thinking in terms of political and economic consequences does not emphasize the vulnerability of all, but only of some, and induces self-centred emotion (cf. embarrassment, sadness, guilt), thus ecological practices become a question of political affiliation (self-centred). In other words, responses to threats are related to the vulnerabilities that the meaning given to threats helps to unveil and to the emotions they arouse. Part 3 of this publication is devoted to them, but reflection on these reactions runs through the entire work.

Two questions emerge from the contributions gathered in this last part: one is centred mostly on the question of "acting" upon the emergence of the threat; while the other is centred on the question of "reacting" to the threat. They refer to an observation initiated at the beginning of the book, on the relationship between risk (cf. action category) and threat (cf. relational category), and which introduces questioning about resources (cf. individual and/or collective capability) to cope with it.

The first approach ("acting") directly raises the question of the very possibility of action (see Chaps. 12 and 13). When dealing with threats, we are reluctantly forced to recognize our powerlessness, while with risks, we believe that we are dealing with occurrences that we can somehow control (see Chap. 12). Moreover, this is shown in the use of the verbs that denote action against risk and action against threat.

We will use the verb "to avoid" to talk about risks, dangers, damage or disasters, but will use the verbs "to avert" or "to ward off" to talk about threats. Thus, risk seems to imply action in terms of challenge, while threat refers to action in terms of defence/protection. The action that the threat entails, therefore, does not have the objective of eradicating its source, it would aim instead for a more or less durable and/or effective safe haven. If, at present, geoengineering seems like an appropriate means to take action on climate change, its effectiveness (cf. the possibility of returning to the start) raises questions, especially since nothing guarantees that in the long term it will not turn into a threat (see Chap. 12).

One of the interesting ideas put forward in the book refers to the very principle of an action that requires a goal and the means to achieve it. Regarding both threat and risk, naming and recognizing their existence, a necessary step in the designation of a goal, may be far from obvious.

It took a long time for the appearance of a whole set of "epiphenomena" to be expressed in terms of climate change (see Chap. 12). Recognition of its magnitude, of the transcendental character of the damage caused, its recognition as a threat, is still not accepted by all (see active denial of problem, Chap. 13). Yet, without a designated goal and, in this case, a shared goal, action, and moreover collective action, cannot begin.

The hypothesis put forward is that "recognizing the threat, coming to terms with it, has been and hopefully will be the condition of action" (see Chap. 13). The need for recognition of the threat as a condition for action concerns current and future phenomena as much as those in the past. The duration of the infamous "active denial of a problem" can be long, even very long. "The influenza pandemic that killed more than 50 million persons, the biggest demographic disaster in the 20th century," has been ignored in the public sphere for 100 years (see Chap. 15). This killer pandemic, which caused more deaths than World War I, did not give rise to any public commemoration (e.g., action). Relegated to the "private space for memories" of families, it disappeared from collective memory. Forgetting the past, which means a break in continuity, can in itself be a threat to the present and the future (e.g., duty of memory). But if the collective memory "forgot" this pandemic, it is because it represented "a failure both of medicine and health services, and an opportunity for the Church to restore its interpretative power over the diffusion of the rationalist, agnostic and even atheistic discourse connected to the French worldview" (see Chap. 15). In other words, at the time, it represented a threat to the status quo and health care system that it was better not to recognize, but rather to forget, to ignore; otherwise, it would have been necessary to act.

However, even when the goal is designated and the threat is recognized so that action can be initiated, it is also necessary to have enough resources or to give ourselves the means. One must, therefore, evaluate the potential, individually and/or collectively, to cope as being satisfactory.

The general advanced hypothesis is that this potential resides, to a large extent, in the mobilization of knowledge: "Knowledge is interpreted, used and understood, but also produced by an intention for action and by action itself" (see Chap. 13).

Thus, to act in the face of threats to our societies through the mobilization of knowledge is also to admit that any postulate can and must be questioned. Among those commonly considered "untouchable" are the mathematical models of the probable. "The mathematical writing down of the probable is a mathematical decision, which should be made upstream, before any risk model is constructed" (see Chap. 14). Even though it is nothing but a phrase, a choice of words to use for thinking ("*How to do Things with Words*" —J. L. Austin), it compels epistemological and ethical dimensions. The choice of the risk model, described by this wording, does not belong to it and, above all, should not belong to it alone (see Chap. 14).

The mobilization of both conceptual and methodological knowledge with its tools is a valuable resource for action to cope with an emerging threat, thereby challenging it merely by removing it from denial and oblivion. However, it is not a primary resource for responding to the threat, resisting and/or surviving it. This specific resource refers to what can be described as "social support", of which social sharing (e.g. the development of threat) is one of the conditions. The full significance of social support is clearly explained by particularly dramatic situations, such as collective trauma where a threat (e.g. terrorist threat) ends up becoming a reality (e.g. terrorist attack). In these situations, "the violence of the world, the precariousness of human bodies, the finiteness of existence, and the blind force of fate stand out in the eyes of all. Collective trauma abruptly denounces the most fundamental assurances that individuals collectively weave". This shock, which means a sharp but, above all, a profound semantic disruption, gives rise to the spontaneous development of two reactions: mass gatherings and the interpersonal process of social sharing of emotion (see Chap. 16).

The hypothesis put forward presumes that these two reactions constitute synchronization tools for the members of an afflicted community, that is, restoration tools for the "social fabric networks" (see Chap. 16). Getting together, sharing what we feel, what we think, helps to reaffirm common values and beliefs thereby restoring solidarity and social cohesion. The question arises around which beliefs and in the service of which values this cohesion will be built, to which the history of our societies sometimes provides a terrifying answer.

Another point emphasized in this book is that it is vital that the analysis be given a fairly lengthy timescale concerning the conditions of threat emergence, their development, as well as reactions to them. It is this temporal perspective which fully reveals the issues of identity, politics, ethics, security and economics. Shedding light on these issues makes one aware that without their integration, there is a risk that the threat could be reduced to the level of a psychological, individual, even intra-individual phenomenon. Given that it is a worldwide societal phenomenon, however, it is one of the major features of our time.

Undertaking and promoting multidisciplinary research on threats, as shown in this book, is a project that has solid foundations. It would, nonetheless, be worthwhile to further expand including, in particular, the contributions of the sciences of language and communication, life sciences, Earth science, computer science and technology. Such a project, beyond a reflective analysis that would benefit from being enriched, notably by the contributions of social philosophy, would also have a clear interest

in undertaking a comparative analysis of threats, in order to isolate the factors leading from risk, danger, peril, etc. to actual threat. The book proposes a preliminary framework for this comparative analysis, which could be built around five dimensions: "nature and localization of the threat; cause of the threat and threat occurrence responsibility, intention underlying the perpetration of the threat; conditions and effects of the threat; state of the threat target; collective process inducing the threat or induced by it (i.e., legitimization)" (see Chap. 2).

However, the main contribution of this work is to show that the concept of threat is a relevant notion for the analysis of our current and future societies, which are confronted with phenomena and processes that are new or, until now, have been less visible, more difficult to grasp. Our epoch discovers the unprecedented magnitude of the unpredictable and inevitable phenomena. And this unprecedented magnitude gives them a threatening nature. Little or nothing seems like before.

This work argues that the concept of threat is interdisciplinary to several sciences and currents of thinking and can be made operational and thus guide future research, even if it still lacks sufficient theories. These conclusions aimed at drawing attention to some "elements, working extracts" that emerged from their "blending" (see Introduction). It is a safe bet that additional results can be expected to emerge.

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