

Benedikt M. Orłowski

# RIVALLING DISASTER EXPERIENCES

The Case of the Seismo-Volcanic Crisis  
of El Hierro, Canary Islands



[transcript]

Social and Cultural Geography

## From:

*Benedikt M. Orlowski*

### **Rivalling Disaster Experiences**

#### The Case of the Seismo-Volcanic Crisis of El Hierro, Canary Islands

February 2021, 278 p., pb., 12 b&w ill., 39 col. ill.

60,00 € (DE), 978-3-8376-5512-4

E-Book:

PDF: 59,99 € (DE), ISBN 978-3-8394-5512-8

People experience disasters very differently. Conflicts about a »correct« interpretation of the risks might arise. The side-by-side of different truths lead to people seeing mismanagement and disinformation. The volcanic crisis of El Hierro shows how rivalling interpretations amongst affected islanders, the media, sciences, and disaster response institutions cause great social tensions and scepticism towards scientific information. Thus, to fully understand disaster risk, the focus must shift to the rifts between established convictions and the individuals' creativity to overcome them, taking into account their embeddedness in various fields of practice, each with their own rationales and ruptures.

**Benedikt M. Orlowski**, born in 1979, works as a research associate at the Department for Urban Research and Statistics in Nürnberg. The human geographer did his doctorate at the University of Erlangen-Nürnberg and is a member of the working group on »Cultures and Disasters« at the local Institute for Geography. In 2015, he co-edited a volume on Cultures and Disasters which has become a seminal book in its field. His research focus is on human geography, particularly the geography of risk and cross-disciplinary approaches to volcanic risk, and risk and the media.

For further information:

[www.transcript-verlag.de/en/978-3-8376-5512-4](http://www.transcript-verlag.de/en/978-3-8376-5512-4)

© 2021 transcript Verlag, Bielefeld

# Contents

---

<b>Acknowledgements</b> .....	9
<b>Abstract</b> .....	11
<b>1. Preface: A Volcano Named ‘Cabrón’</b> .....	13
<b>2. Introduction: The Seismo-Volcanic Crisis of El Hierro</b> .....	17
<b>3. The Study Area: El Hierro, Canary Islands</b> .....	25
3.1. Location, Climate, and Population of the Canary Islands .....	25
3.2. Some Facts about El Hierro’s Population and Economy .....	27
3.2.1. Overview of the Island: Population and Settlements .....	27
3.2.2. The Seismic Crisis and a Drop in Population? .....	28
3.2.3. Economy and Tourism: A Fragile Island? .....	30
3.2.4. The Seismic Crisis and a Drop in Tourism? .....	33
3.3. <i>Un solo pueblo?</i> – The Administrative Structure of the Canary Islands .....	34
3.4. The Canary Islands Plan for Civil Protection Against Volcanic Risks .....	37
3.4.1. Hierarchical Structure of Spain’s Civil Protection .....	37
3.4.2. PEVOLCA – Organising Volcanic Risks .....	37
3.4.3. One Volcanic Risk – Shared Responsibilities between National and Regional Actors .....	38
3.4.4. Volcanic Traffic Light – Synchronising Volcanic Activity and Response .....	41
<b>4. A Scientist’s View on Volcanic Risks on El Hierro, Canary Islands</b> .....	45
4.1. From Myth to Science to Mystical Controversy: Stories of the Canary Islands’ Origin .....	45
4.2. The ‘Imperfect’ Hot Spot of the Canary Islands .....	47
4.3. El Hierro – A ‘Pyramid’ of Basalt .....	50
4.4. Exploring the Past: Volcanic Risk between Estimation, Exaggeration, and ‘Concealment’? .....	53
4.5. El Hierro’s Seismo-Volcanic Event from the View of Volcanology .....	57

4.5.1. Seismic Anomaly: The Pre-Eruptive Phase (July 2011 – October 2011) .....	58
4.5.2. Uncertainty about Explosiveness: The Eruption (October 2011 – March 2012) ....	60
4.5.3. Seismic Unrest: After the Eruption (March 2012 – March 2014) .....	62
<b>5. Culturally Borne Disasters</b> .....	<b>65</b>
5.1. Opening Up and Bridging the Gap(s) of Disaster Rationales .....	66
5.1.1. A Brief (and Incomplete) History of What Is Meant to Be a Disaster .....	66
5.1.2. DRR Practice and the Trenches of Rationales .....	70
5.1.3. Local Knowledge – A Bridge over the Gap(s)? .....	75
5.1.4. Interim Conclusion: Four Axioms for Further Research .....	79
5.1.5. Another ‘Myth’: Islands and Insularity – Entity or Delusion? .....	79
5.2. The Cultural Sense of Disasters .....	86
5.3. Phenomenon I: Risk ‘In-Between’ Individual and Collective Experience .....	89
5.4. Phenomenon II: ‘Truth’ and Ambiguities .....	91
<b>6. Geography of Risk Inspired by a Pragmatist Notion of Praxis</b> .....	<b>95</b>
6.1. Truth Relativism and the Basics of Practice Theory .....	95
6.2. Fields of Practice and the Arena of Singularities .....	98
6.2.1. Fields of Practice .....	99
6.2.2. Stream of Experiences and Stabilised Rationales .....	100
6.2.3. Ruptures as Singularities .....	104
6.2.4. The ‘Arena’ of Singularities .....	105
6.3. Interim Conclusion: Rivaling Fields of Practice in the Wake of a Disaster .....	106
6.4. Disasters as Breaching Experiments? .....	108
6.5. Resulting Questions for This Case Study .....	108
<b>7. Research Design and Methodological Approach</b> .....	<b>111</b>
7.1. First Contact with the Research Field .....	111
7.2. The Process: Shifting Research Focus .....	113
7.3. Grounded Theory and DRR .....	113
7.3.1. Grounded Theory as a Key to Individuals’ ‘Theories of Risk’ .....	113
7.3.2. Basic Idea of GTM: Data-Driven Research .....	116
7.3.3. The Epistemological Orientation of GTM .....	116
7.3.4. Abduction: A Pragmatist’s Approach to Sudden Inspirations .....	120
7.3.5. Exploration and Experience-Making as a Way of Research .....	123
7.3.6. Research Process with GTM .....	124
7.4. Theoretical Sampling and Methodological Tools .....	127
7.4.1. First Phase – ‘Remote Sensing’ Medial Coverage and Comments .....	127
7.4.2. Second Phase – Detecting Continuities and Ruptures in Everyday Life .....	128
7.4.3. Third Phase – Identifying Fields of Practice, Rationales, and Singularities ....	130
7.4.4. Fourth Phase – Going into Dialogue with the Data (2014–2018) .....	133

7.4.5. Overall Characteristics of the Sampling Groups .....	133
<b>8. Disaster Experiences in Rivalling Fields of Practice .....</b>	<b>137</b>
8.1. A View on the Past: Did Volcanic Risk Matter? .....	137
8.1.1. Excursus: The Seismic Crisis of 1793 .....	137
8.1.2. Out of Eruption, out of Mind? .....	141
8.1.3. The Seismic Crisis as a Rupture of Aesthetics .....	144
8.2. The Practice of Being <i>Herreño</i> .....	147
8.2.1. The Community-Defining Concepts of Being <i>Herreño</i> .....	148
8.3. Staging a Disaster and Re-staging a Community .....	161
8.3.1. "It's Not Real" – La Restinga 'Killed' by the Alarmist News Media .....	161
8.3.2. Rationale: Sensationalism as the Cause of the 'Seismo-Volcanic Crisis' .....	166
8.3.3. "The Monster is Rising" – How Real is the Unreal in the Media? .....	167
8.3.4. >Breaking Normalcy< – the '(Ir-)Rationale' of Disaster Journalism .....	179
8.3.5. Two Competing Scripts: 'Alarm' versus 'Calm' .....	181
8.3.6. Rupture between Disaster Narratives and Experience – "Seismic Violence Ruptures the Message of Tranquillity" .....	182
8.3.7. Ambiguity as a Key Phenomenon .....	183
8.3.8. Experienced Ambiguity: The Evacuations .....	183
8.3.9. Comments as an Arena of Singularities: The Case of the 'Masked Avenger' .....	185
8.3.10. Practices of Counter-Staging: Managing Disaster Vocabulary and Images .....	190
8.3.11. Interim Conclusion: Staging a Disaster and Re-staging a Community .....	195
8.4. The Thin Red Line of Civil Protection .....	197
8.4.1. "Prepared for What's Planned, the Unexpected Arises" .....	197
8.4.2. Phenomenon: Communicating Uncertainty Is a Tightrope Walk .....	200
8.4.3. Midpoint Practice: Resolving the Dilemma .....	203
8.4.4. Strategy: Speaking with a Single Voice .....	205
8.4.5. Strategy: Run with the Pack – Proactive Information Management .....	206
8.4.6. Objective: Re-Education – Living in Certainty with Uncertainty .....	210
8.4.7. Interim Conclusion: Education as the Solution? .....	214
8.5. Science: The Power of Risk Construction .....	216
8.5.1. Eradicating Contingency and The Practice of Mapping Volcanic Risks .....	216
8.5.2. The Rationale of the Field of Hazard Research .....	219
8.5.3. IGN – Scientific Power by Decree .....	221
8.5.4. INVOLCAN – Fighting for Volcanic Autonomy .....	223
8.5.5. Contingent Scientific Legitimacy – "Who Has the Seismic Network Has the Power" .....	226
8.6. Summary: Rivalling Fields of Practice in the Case of El Hierro's Seismic Crisis .....	231
<b>9. Conclusion: Disaster Experiences Emerging from Rivalling Fields of Practice .....</b>	<b>235</b>

<b>References</b> .....	241
<b>Illustration Index</b> .....	265
<b>Index of Tables</b> .....	267
<b>Abbreviations</b> .....	269
<b>List of Interviews</b> .....	271

## Acknowledgements

---

First of all, I would like to thank Fred Krüger, the supervisor of my doctoral thesis. His providing the thematic framework of cultures and disasters proved to be an important inspiration that led to this work. He created a creative working environment in which I had the necessary freedom and support to adequately approach the complexity of crises and catastrophic situations. His personal commitment ensured the financing of my thesis, two field stays, and six years of employment at the Institute of Geography. The many experiences I have gained in teaching, organising field trips and co-authoring exciting publications have been deeply rewarding.

I would also like to thank my great colleagues and friends at the Institute of Geography. In particular, I thank Klaus Geiselhart, who was an important source of inspiration for the theoretical background of this work. I would also like to thank the other members of our working group: Fabian Schlatter, Peter Führmaier, Christoph Haferburg, Tobias Häberer, Thomas Schmitt, and Annika Hoppe-Seyler were important partners in discussing the topics of this thesis or just to chat. And I would like to thank Erin Troseth for the thoughtful proofreading.

It was a special honour for me to experience so much friendship, trust, support and openness from my interview partners on Tenerife, La Palma, Gran Canaria, and most of all, the Herrenian people. Special thanks to all those who took the time to talk to me about their experiences and their knowledge about the seismic-volcanic crisis. I would especially like to thank Sabine Willmann (Casa Rural El Sitio) and Beatriz Oliver for their active support and friendship. Both brought me into contact with important interview partners and made El Hierro a second home for me. El Hierro and its people are deeply rooted in my heart. I hope that with this work I can contribute to a better mutual understanding between the actors involved and that future (seismic) crises can thus be managed even better.

I also thank my close friends and loved ones who helped me to overcome my own little crises with this doctoral thesis, who believed in me and had such a great understanding of the difficulties and sufferings of a 'never-ending' PhD student.

This thesis is dedicated to my late mother.

The work at hand represents the slightly edited version of my doctoral thesis which has been accepted by the Faculty of Sciences of the Friedrich-Alexander-Universität Erlangen-Nürnberg with the original title of „La Crisis Sísmica: Disaster Experiences Emerging from Rivalling Fields of Practice. A Case Study of the 2011–2012 Seismo-Volcanic Crisis of El Hierro, Canary Islands” in 2019.

## Abstract

---

This study deals with the social implications of the 2011 to 2012 submarine volcanic eruption off El Hierro, often referred to as a 'seismo-volcanic crisis', and its aftermath. The event caused hardly any material or physical damage but was nonetheless portrayed as a disaster in the media, causing great social tensions between various fields of practice: affected neighbours, the (social and traditional) media, sciences and academia, local government, and various institutions involved in disaster response and management. The work focusses on the creative internalisation of a natural hazard by individual actors, taking into account the actors' embeddedness in various fields of practice, each with its own rationales. Current challenges of disaster risk reduction (DRR) are discussed in light of a dynamic understanding of culture, truth relativism, pragmatism, and practice theory. Based on a grounded theory methodology inspired by pragmatism, the study traces individuals' mindsets and bases for action, iteratively switching between analysing data and processing theory. Interviews with over sixty people were conducted as part of this research. The crisis appears as rivalling framings of the natural event: from media and bloggers to politicians and people involved in tourism or civil protection. Overall, this led to a great rift between the different images of volcanic risk. Consequently, the interpretation of risk remained highly ambiguous, and scientific information that was supposedly neutral became the actual risk for the actors in civil protection and the tourism sector. The interstice between these fields and their rationales provides the ground for creative solutions. Examples of this are how commenters of online newspapers contrasted 'alarmist' statements in the media with their own interpretations and how civil protection experts developed a well-balanced information policy to avoid information 'misuse' by the media, though doing so ran the risk of being accused of censorship. This study shows how the current hot topics in society (scepticism towards the media and science; conspiracies) and the ways in which our relationship to information can be skewed are also relevant challenges in DRR. In order to acknowledge the complexity of risk adaptation praxis, future research must focus on the drivers and the dynamics of social change which are located in the gaps between supposedly established convictions. The ability of a society and

its individuals to question and break with well-established rationales and practices has to be seen as the key to its adaptability.

**Keywords**

disaster risk reduction, DRR, culture, crisis, volcanic risk, earthquake risk, submarine eruption, adaptation, media, disaster management, disaster preparedness, civil protection, speculation, alarmism, social media, disaster journalism, islands, information management, Canary Islands, El Hierro, Tagoro, practice theory, pragmatism, phenomenology, grounded theory, local knowledge, community

# 1. Preface: A Volcano Named '*Cabrón*'

---

It was a rather fresh but placid early spring day when I was visiting La Restinga, the small fishing village in the south of El Hierro, two weeks after I arrived 'at the end of the world' or the 'island of the meridian'. The splendid island has been given these notions as it once marked the westernmost outpost of the Spanish empire. A block of concrete holding a little steel globe reminds the visitor that the island once served as the prime meridian.

I felt a little bit dizzy after surmounting the infinite serpentine of the time-honoured road with the unimposing number HI-1. The road connects the El Golfo valley with La Restinga over a distance of about thirty-six kilometres. Though a small island, the trip across El Hierro with the car took me over an hour and led me over the island's peak, the fifteen-hundred-metre-high La Cumbre, passing through five different vegetation zones, from humid to arid, from laurel and fayalbrezal forests to pine forests to euphorbia. I met only one or two cars and in the villages the older residents looked curiously at me. After several dozen sharp turns, the last few kilometres of the road pass a rather recent lava field, auburn coloured and sprinkled with several elegant volcanic scoria cones. The razor-sharp basaltic formations on the arid lee side of the island are sparsely vegetated, with merry fellows of little euphorbia, and opening to a view of the tranquil village of La Restinga (Figure 1).

Although some of the little shops and one of the few restaurants were open, the streets seemed too deserted to me, even for this little village. However, this observation applied to the whole island. I was goggling at the sea and wondered if the notorious but unnamed submarine volcano, somehow the reason I came, would do me the favour of erupting again, at least a little gas bubble, to cast out the gloomy stillness and the doubts about the enduring sense of my study. But there was not a single sign of its existence or anything that could make a stranger think about a volcanic eruption and the 'seismo-volcanic' crisis of 2011–2012. The Mar de las Calmas remained as calm as its name promised.

Thankfully, around the corner at the small village square opposite the harbour with its oversized pier, some rusty voices rang out. A group of some friendly older fishermen gathered for a relaxed chat, accepting my timid request for shifting their

Figure 1: The calm bay of La Restinga, with several scoria cones in the background.



Source: Photo by author, taken on 20 February 2013.

topic of conversation to the ‘seismic crisis’ only with a murmur. They complained in unison about the volcano’s fatal impact on the village’s economy, the media’s sensationalistic slant and the politicians’ self-interest. None of which I was hearing for the first time. I was eager to figure out if they had christened their ‘doom’. With a cautious voice, one of them replied to my question: “*Volcán de la Restinga, no?!*”. Then another raised his voice: “I would name it *El Cabrón!*” (the bastard) and everybody laughed. To more laughter, he explained “Because it fucked us.” Continuing, he stated that “it remained ninety meters below the sea surface. [...] *Hombre!* It remained in a depth at which it is no use, not even for scuba diving” (2 Mar 2013, ID 83)<sup>1</sup>.

Their uncertainty about the name aroused my interest. During my further field work I asked my interviewees if they knew the volcano’s name. Most of them were convinced that the name either was (or must be) ‘El Volcán de La Restinga’, though ‘El Volcán de Las Calmas’ was also mentioned many times: I was even gifted a jute bag with a print of the submarine volcano and that name printed beneath it (see

1 References to interviews are given with the date of the interview and the ID number I assigned to it for the study. Below, I will also use pseudonyms for the interview partners.

Figure 2: “Volcán de Las Calmas” print on a jute bag.



Source: Bag is designed collectively by the users of the Occupation Centre ‘El Sabinar’ (El Pinar); probably in 2012, with friendly permission of one of the former operators.

Figure 2). But the volcano remained without a real name, and scientific studies callously designated it as the ‘submarine volcano of El Hierro’.

Several years later (in May 2016), in the tradition of the old explorers, the Spanish Institute for Oceanography officially named the submarine volcano ‘Tagoro’. It was their oceanographic vessel, the Ramón Margalef, that mapped the volcano for the first time. The name ‘Tagoro’ origins are in the Berber language, meaning a circular-shaped place made from stones, or a meeting place (eldiario.es 2016).

Yet no one asked the Herrenians if they agreed with the name. There was neither a public vote nor did the scientists contact the island’s government before the name was made official. It may not surprise that El Hierro’s president Belén Allende commented on this questionable behaviour in a regional newspaper: “again they have proven the divorce between the scientific community and the society” (Belén Allende, according to Ávila 2016; translated from Spanish by the author).

As the scientists’ behavior has led the Herrenians to feel ignored, it seems almost imperative to name the volcano according to a place where people meet and exchange. On the other hand, of course, one might raise the question of why no attempt had been made by the Herrenians themselves to name the volcano. If a thing is not named, is it inconceivable or just not existent? Apparently, the submarine volcano off of La Restinga, which almost has become a new island, remains a rather unloved child of El Hierro.

This study deals with the events connected to the eruption of this unloved volcano and the social conflicts that arose during the seismic crisis of 2011–2012 and its aftermath. It remains to be seen whether ‘Tagoro’, as a name for the volcano, is not so unsuitable after all.