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Introduction: Manufacturing Knowledge at the Border of Science

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1.1 Introduction: Manufacturing Knowledge at the Border of Science

This book focuses on a timely and currently highly controversial topic with considerable resonance in academic circles, amongst policymakers and in the broader public sphere. The central research question it explores is: How and under which conditions do groups of people assign credibility and trust to knowledge claims located outside the established boundaries

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of science? This research question was the focus of a wide-ranging research project which began in 2019. Almost no-one anticipated the transformative potential of the pandemic events that unfolded a few months later. The COVID-19 pandemic, which undeniably changed our lives, completely redefined the general research landscape in which the project was to have been carried out. However, as the well-known adage goes, every cloud has a silver lining. The exceptional nature of the pandemic situation turned out to be an extremely interesting opportunity to address the research question mentioned above, since it brought out the processes we wanted to study even more clearly. In other words, the pandemic was a chance to shine the spotlight on the circumstances under which concerned groups of people challenge the legitimacy of techno-scientific expertise as the unique domain with which individual and public health issues and broader societal challenges can be responded to.

Contemporary practices contesting scientific knowledge claims and advice have recently been at the core of various scholarly and public debates, opening up space for a heated debate over the reconfiguration of the nexus between science, technology, democracy and society (see Armstrong & Naylor, 2019; Ball, 2017; Bory, Crabu, et al., 2022; Bory, Giardullo, et al., 2022; Crabu et al., 2023; Lynch, 2020; McIntyre, 2018; Pellizzoni, 2019). It is worth highlighting that questioning scientific knowledge is a multifaceted phenomenon cutting across a range of different issues and public concerns, such as institutional public science communication practices and public engagement models; the current role of digital technologies and social media platforms as information hubs; the demand for greater transparency in scientific research and its governance; and the relationship between scientific research, technological developments and social justice.

Hence, the questioning of science and techno-scientific expertise cannot be simply dismissed as a mere rebranding of old forms of scientific illiteracy or the product of alleged distorted media representation of science. But there can be no doubt that the COVID-19 pandemic has clearly shown how important the forms and practices of opposition to scientific knowledge are to the biomedical domains and public health in general. Since the beginning of the COVID-19 pandemic, a growing number of groups of concerned people have developed alternative knowledge claims regarding how to manage health and well-being outside the

scientific epistemic borders, thus questioning science-based advice and rules (e.g. physical distancing measures, mandatory use of personal safety protection devices, vaccine policies) implemented to combat the dissemination of the virus. They thus challenged the exclusive authority of scientific communities, biomedical institutions (e.g. health agencies and medical associations) and gatekeepers of truth (e.g. science journalists and public intellectuals) in interpreting the pandemic and deciding how to manage it. In so doing, they strongly questioned the legitimacy and suitability of science-based governance models in dealing with emerging societal issues.

In this respect, recent research has demonstrated that this critical, or at least distrustful, attitude to scientific knowledge and advice is more than simply a contingent reaction to the COVID-19 global outbreak and containment policies (Butter & Knight, 2023; Crabu et al., 2023; Prasad, 2022). Rather, during the pandemic, the strong and, to a certain extent, unprecedented public visibility gained by groups of people claiming legitimacy for action outside the boundaries of science was, in many respects, a kind of litmus test for a phenomenon—that is contesting techno-scientific authority—rooted in long-term social issues concerning: (1) the dynamics of public trust and mistrust in the ability of techno-scientific expertise to address and solve the potential unintended risks and (social and ethical) consequences arising from technoscience-driven innovations (see Beck, 1992; Oreskes, 2019; Weingart, 2023) and (2) the growing consensus among both ordinary people and communities of healthcare professionals regarding the utility of alternative models of caring and healing (Brosnan et al., 2018; Vuolanto et al., 2020). Consider, for example, how well-controlled diseases are breaking out once again in highly developed countries due to distrust of vaccination policies; or that, in 2018, the American Society of Clinical Oncology's second annual National Cancer Opinion Survey showed that nearly four in ten US citizens (39%) believe cancer can be tackled with alternative therapies such as enzyme and oxygen therapy, diet, vitamins and minerals alone (National Cancer Opinion Survey, 2018)—despite strong scientific evidence that patients with common cancers choosing to treat them with alternative medicine only are 2.5 times more likely to die of it than patients receiving standard cancer treatments (Johnson et al., 2018).

In fact, the history of science and scientific medicine is packed with, if not actually made up of, conflicts between different professional and social groups, some of which have been expelled from the institutional boundaries of prevailing scientific and medical communities (Woodward & Richards, 1977). Although alternative scientific and medical knowledge has been studied since the 1980s, particularly within the social studies of science field (see Collins & Pinch, 1982; Nowotny & Rose, 2011; Wallis, 1979), the prevailing perspective in social science research programmes and public debates is still that suspicion and distrust from an 'irrational' and 'dangerous' mindset (on this point see Harambam's seminal critique, 2020a). In recent research, this view has also fed a widespread concern that the increasing inclusion of digital platforms in all our daily practices and routines has allowed deception and misinformation cultures to proliferate (Del Vicario et al., 2016; Vosoughi et al., 2018; West & Bergstrom, 2021; Zarocostas, 2020). Within this scenario, in various media contexts (both legacy and digital), academics, political analysts and policymakers worldwide have advocated for the reaffirmation of the centrality of the 'light of reason' as the sole guiding principle in both individual and public decision-making processes, defending it against what they see as an irrational and uncritical acceptance of fraudulent, counterfeit and inaccurate information. Accordingly, individuals or groups of people who question the monopoly of techno-scientific expertise, as well as its pertinence to both societal and technoscientific issues, are often accused of undermining the very principles of 'Western' scientific rationality through the dissemination of fake news, deceptive information and conspiracy theories.

In this interpretation, traditional epistemic institutions and gatekeepers of truth are losing their monopoly on public (health) issues, and in this process, so-called malicious agents—alternative healers, cult leaders and misinformed people—have begun spreading their own non-scientific claims and counter-knowledge. Accordingly, many analysts, institutionally recognised experts and members of scientific communities have argued that advanced democracies are falling into a state of emergency due to social media-based infodemics (Zarocostas, 2020), changes in the professional structure of scientific journalism and increasingly misinformed populations. In their view, this state of emergency takes the form

of open conflict between scientific experts, policymakers, business lobbyists, and concerned groups of people questioning the legitimacy of science's claim to define what *nature* and *society* are and how societies should be governed.

Whilst stopping the circulation of fraudulent or inaccurate claims is an urgent concern, analytically speaking what is most deserving of attention is the increasingly important role played by Western scientific institutions and their representatives in the governance of societal challenges which have become subject to contentious social and political dynamics. These dynamics recall the well-known paradox of scientific authority (see Bijker et al., 2009), according to which in contemporary times, demand for scientific guidance spans a wide spectrum of topics, encompassing areas such as energy production and genetically edited organisms (including humans). However, paradoxically, it appears that the greater the urgency in seeking scientific advice, the more sceptical policymakers, stakeholders and the general public are of scientific authority. Hence, at the core this paradox is the claim to the right of other forms of expertise, besides scientific knowledge, to exist and be mobilised in response to public issues, thus shaping a perspective by which true and useful knowledge does not necessarily correlate with scientific epistemology.

In this respect, current cultural perspectives questioning the monopoly of science are strongly stigmatised by various academics and public commentators, as was apparent during the COVID-19 pandemic in particular. These argue that a critical stance regarding science is inherently irrational and dangerous and, as such, must be opposed in order to preserve democracies and the well-being of our societies (Ball, 2017; D'Ancona, 2017; McIntyre, 2018). Thus, contemporary forms contesting the epistemic authority of biomedicine, and techno-scientific expertise more generally, have been framed as publicly devaluing the very concept of 'truth' and challenging 'the existence of reality itself' (McIntyre, 2018, p. 10). More particularly, in social and political studies exploring the changing relationship between expertise and society, this position is extremely evident amongst those cultivating a wide-ranging research current regarding the emergence of a 'post-factual/post-truth society' (see Farkas et al., 2017; Fuller, 2018; Giusti & Piras, 2021) as an era dramatically dominated by fake news-making processes and in which objective

facts are less influential in shaping public decision-making and individual choices than personal beliefs and individual experiences.

While the post-truth debate has revitalised discussions concerning the legitimacy and public implications of social studies in exploring scientific and expert knowledge, it should be recognised that reducing such a complex phenomenon to mainstream labels such as 'post-factual', 'fakers' or 'anti-science' can pave the way for a normative analytical strategy that seeks to distinguish different forms of knowledge by applying the same scientific rationality demarcation criteria. In our view, this analytical stance risks reiterating *naïf* accusations of irrationality without elucidating the existing social relations between science and other competing forms of knowledge and expertise, as well as neglecting the cultural and material conditions behind the emergence of a contentious relationship between science and concerned groups of people. Delving even deeper into this point, it is worth highlighting that a normative analytical stance risks assuming that any scholar writing about knowledge and people with a contentious relationship with science inevitably takes on one of the following two irreconcilable roles: 'dangerous advocate of irrational claims' or 'upstanding gatekeeper of Western rationalism'. The former consists of legitimising allegedly anti-scientific stances, and the latter contributes to restoring the light of reason to its rightful place and uncovering the hidden dangers involved in questioning science and techno-scientific expertise. Hence, the idea that knowledge-making processes on the margins of science should be studied by adopting an agnostic stance—that is without passing judgement on their ethical value or assessing whether a given belief is 'rational' or 'true' according to prevalent scientific criteria—may be regarded with suspicion as a covert attempt to legitimise potentially dangerous and irrational mindsets.

This crucial point was recently re-examined by Jaron Harambam (2020a) in an exploration of contemporary conspiracy culture. In his book *Contemporary Conspiracy Culture*, Harambam seeks to adopt a symmetrical stance, addressing alternative forms of knowledge without explaining them through causal factors like cognitive biases, scientific illiteracy or emotional drivers. In this way, Harambam urges social scientists to agnostically consider the multifaced perspectives of people and communities supporting alternative knowledge with a view to

understanding the processes spawning controversies around certain claims and issues. In Harambam words, this can be done by 'taking a stance without taking sides' (p. 235). As the author clarifies, if 'I may side with conspiracy theorists on *procedural* terms, I do not (necessarily) side with them on *substantial terms*' (p. 238; author's emphasis). In other words, it is the drivers that push people not to believe certain science-based claims—or at least to view them sceptically—not the content of the knowledge per se that are of interest to social scientists. Such a perspective, however, may pose a contradiction between what Harambam calls 'normalization'—there is nothing wrong or deviant in the way social and natural worlds are understood outside the epistemic border of science—and 'stigmatization'—knowledge production outside the borders of science is dangerous because it supports possibly deviant behaviours and undermines the relevance of technical and scientific expertise and science-based policymaking. In disentangling this contradiction, Harambam proposes to contextualise contemporary conspiracy culture within its 'social, cultural, and political settings' so that 'the two supposedly contradictory developments of conspiracy culture (normalization and stigmatization) may not only be both true, but, paradoxically, may even be reinforcing each other' (p. 10). In other words, a perspective by which both science and other competing forms of knowledge are analytically grasped without prejudice, and treated impartially, is crucial, i.e. it is not social scientists' job to judge knowledge (scientific or otherwise) in terms of truth or falsity but rather to explain its emergence and stabilisation and, potentially, the socio-technical process through which bodies of knowledge acquire epistemic authority.

Against this backdrop, it might be said that this book is located within the same analytical framework elaborated by Harambam (2020a, 2021) but it widens its field of enquiry also to other, not (necessarily) conspiracist groups. What the book thus attempts to do is to overcome a definition of conspiracy theories that may be simultaneously too broad (as Harambam himself recognises that the conspiracy label encompasses many different things) and too narrow (not all alternative knowledge claims can coalesce in the conspiracy category). In this respect, the first focal point of this book is that contemporary science contestation practices play out at the epistemological level, as communities and groups of

concerned people shape and share knowledge claims while adopting an ambivalent relationship with science and various epistemic institutions. Different social values and objectives can shape mutual incompatibilities or incommensurable confrontations between scientists and those that contest their epistemic authority, while in other cases disagreement may only be partial.

A second focal point concerns the role played by internet-based digital, networked and social media technologies in sustaining communication processes in which interpersonal relationships allow people to share information and lay knowledge, and build communities as critical resources in practices questioning science. Indeed, digital and social media technologies cannot be considered merely communicative spaces with which to disseminate 'alternative', and 'non-scientific' knowledge and facts; they are also an interactional setting that co-shapes individual and collective subjectivation processes, future scenarios, mutual recognition and collaboration, as well as the collective actions of those who—for various reasons—do not precisely align with the prevailing scientific visions and representations of the world, as the COVID-19 pandemic clearly highlighted (Prasad, 2022).

By considering these two interrelated focal points, this book will show that science and competing forms of knowledge are not two well-bounded entities but rather two possible poles on a continuum in which the social, political and epistemological processes of defining the relationship between expertise, science, technology and society are located. In this way, the volume aims to take seriously Harambam's recent and extremely urgent call (2020b) to Science and Technology Studies (STS) scholars to conduct fieldwork on science contestation practices and cultures, moving 'beyond prevalent simplistic oppositions between science vs politics, facts vs opinions, information vs manipulation, solidarity vs freedom, public health vs economy, lockdowns vs viral explosion' (Harambam, 2020b, p. 61).

Theoretically speaking, this book is primarily rooted in the STS field, and proposes an integrated perspective intersecting the Social Worlds Framework (SWF; see Clarke & Star, 2008) with the major analytical standpoints developed by Actor-Network Theory (ANT)—namely its agnosticism regarding who or what has agency—which generates a focus

on the relations made and remade between human and non-human entities forming part of the social world under examination (see Callon, 1984; Latour, 1987).

The SWF allows us to identify and investigate science-contesting cultures in collectivities, where relatively coherent sets of shared commitments, practices, norms and knowledge may operate through interactions and specific socio-technical arrangements. In this respect, by cross-fertilising SWF with ANT (see Chap. 2 by Federico Neresini), the volume will consider both the social and technological conditions behind science-contestation cultures, in order to grasp the ways in which scientific knowledge and science-based ordering processes are questioned by human-nonhuman assemblages. Within this theoretical framework, our aim is to mobilise an agnostic analytical positionality allowing us to set aside a priori assumptions about the nature of assemblages, causal conditions and the accuracy of actors' accounts. Thus, soliciting impartiality, this positionality aims to critically reconsider and overcome ingrained juxtapositions between truth/falsity, rationality/irrationality and science as neutral/science as revolutionary. The book will hence embrace the 'symmetry postulate' (see Lynch, 2017), recently re-examined in the STS field to suggest an analytical approach to examining knowledge-making practices without privileging any one kind of statement over others, or normatively labelling specific claims as true or false. As David Lynch has, in fact, argued:

> The […] contrast between 'objective facts' and 'appeals to emotion and personal belief' does not quite capture the challenge to science in the current era. Instead of an outright rejection of science and objectivity, what is involved is an effort to produce adversarial claims to objectivity and institutional support for those claims. (Lynch, 2020, p. 50)

Through this lens, science contestation practices—involving both human and non-human actors—are framed as an emerging outcome of networking activities shaping social worlds that are both enacted and transformed through intra-action processes (Barad, 2007). These processes can also re-configure the composition and conditions of concerned social worlds, thus shaping the knowledge and material background for

the emergence of new broad substantive arenas made up of multifold social worlds.

From this perspective, the aim of this book is to explore how this networking activity comes into being, which kinds of social worlds it constitutes, how social worlds come to be made up of human agents and (media) technologies as well as by segments of scientific communities and their opponents, how actors are enrolled into social worlds, how parts of social worlds can be re-assembled to form new ones, and how social worlds can temporarily achieve stability, shaping and sharing what we label 'refused knowledge' (RK), i.e. a body of knowledge partially or totally refused by institutional and scientific authorities. Accordingly, the volume explores both how RK is produced as 'matters of fact', circulated and entrenched, but also how it can be reworked as 'matters of concern'.

In actual fact the notion of refused knowledge embodies the theoretical and reflexive approach pursued within this book. When we started the fieldwork from which this book derives, we engaged in in-depth discussion within the research team about the 'right words' to use in talking about current challenges to science. In our search for the most suitable words, we opted to agnostically unfold the process of shaping and stabilising refused knowledge, that is, a body of knowledge around which some segments of society find a common space for action and sense-making by bringing together their issues of mutual concern. We refer to this space in terms of 'communities based on refused knowledge' or, in short, 'refused knowledge communities' (RKCs), precisely to emphasise our commitment to not normatively labelling people who distrust science, and to not passing judgement on their ethical values and beliefs. Hence, in this book we make the case that it is not RKCs' apparent 'exoticism', danger, even weirdness which makes them worthy of study. Rather, what makes RKCs a relevant research object for social scientists revolves around the conditions under which RKCs outline different kinds of social realities, and how they make sense of them without reverting to techno-scientific expertise. By framing RKCs as social worlds, we avoid assigning a historical and predetermined hegemonic position to institutional scientific paradigms, and thus we also avoid defining emerging knowledge-making practices in terms of their difference or distance from prevailing scientific paradigms. This allows us to reverse the dominant

perspective that frames competing forms of knowledge and contestations of science in terms of aberrant and deviant phenomena, thus considering the discourses, practices and resources—both material and relational— by which RK can become trustworthy and reliable in the eyes of concerned groups of people in depth.

Overall, the volume is based on an extensive three-year mixed-method empirical research into four Italian RKCs especially concerned with health-related issues, namely:

- the Pro-vaccine choice[1] RKC which opposes mandatory vaccination and engages in work to promote information on the risks of vaccination and support families suffering alleged vaccine damage;
- the Five Biological Laws RKC encompassing the followers of the so-called Germanic New Medicine, a complex system of knowledge— refused by allopathic practitioners as lacking a scientific basis—that purports to be able to cure cancer, among many other diseases;
- the Alkaline water RKC, promoting alkaline water consumption and an alkaline diet to counteract the risk of metabolic acidosis, which is held to be responsible for many diseases, including cancer and diabetes;
- the Stop Fifth Generation (Stop-5G) RKC, whose members are citizens engaged in opposing the fifth-generation (5G) standard for broadband cellular network rollout, which is considered to be the primary vector of electromagnetic hypersensitivity and other diseases, such as cancer.

These four RKCs share the following characteristics: (1) the rejection of all or part of the stabilised explanations offered by science of many health- and illness-related phenomena; (2) the production of formalised (or formalisable) knowledge capable of offering answers to certain health, care and general well-being problems; and (3) a major focus on health issues, with a strong commitment to boosting individual agency and responsibility in managing well-being. Our overall research design was

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[1] In Italy this community self-identifies in English as 'free vax'. While in other research (see Bory, Giardullo et al. 2022) the label 'free vax' was used, to avoid obfuscating the emic jargon, in this volume we have preferred the label 'pro-vaccine choice' since the term 'free vax' is not commonly used in English and is potentially misleading.

elaborated before the whole field of inquiry was disrupted by the COVID-19 pandemic and was then reconfigured in the pandemic context, which can be considered emblematic in underlining the reciprocal contentious relationship between RKCs, on one hand, and the prevailing scientific institutions and their representatives, on the other.

Empirical data was gathered through an articulated research design encompassing: an extensive digital ethnography within several online settings (such as Facebook, YouTube, webinars and instant messaging platforms; participant observation of key public events); 70 qualitative interviews with RKC members; and a quantitative analysis of a large dataset of all articles related to the four RKCs published by eight major Italian newspapers. Relying on this large empirical data set, the book investigates and critically examines these four RKCs, their narratives and public discourses currently circulating in Italy, as well as the forms taken by challenges to the prevailing scientific epistemology.

The book consists of nine chapters, with a concluding remark section opening up the debate about the relevance of exploring refused knowledge to a reconsideration of our understanding of the relationship between science, technology and society.

The second chapter, by Federico Neresini sets the conceptual and analytical frame for the subsequent chapters. Recalling a number of epistemological debates deeply rooted within the STS tradition—such as those concerning the relationship between the researcher and who/what is analysed (positionality), the process through which every element in a network is continuously constituted (relationality), and the fact that when something is defined, its counterpart is also constituted (reciprocity)—it supplies a general framework within which the symmetry principle guided our research. Thus, it discusses the substantive reasons behind the RKC notion in full. The chapter then elucidates the theoretical approach we deem best suited to studying the RKCs, i.e. an integration between the SWF and certain concepts developed by ANT, including discussing how and whether their cross-fertilisation is possible and useful in exploring the current challenges to science. The third chapter by Paolo Volonté highlights how endorsing and embracing a body of refused knowledge is much more than a merely cognitive act. Indeed, refused knowledge enacts the shaping of communities of people engaged in a contentious

relationship with science, thus involving interpersonal bonds, networks and social relations that exceed mere instrumental objectives and shape a feeling of belonging. Embracing refused knowledge and taking part in a refused knowledge SW can be a significant event in individuals' personal life trajectories and one which is not ascribed but acquired through a biographical transition. In biographical trajectories, there is often a period of transition from believing in socially recognised and institutionalised systems of knowledge to believing in an alternative one, refused by the dominant (scientific) community and accepted by a minority. Belonging to a refused knowledge community is a milestone in a personal biography that often involves costs or, in any event, important changes in work and social relations, political choices, health choices and body care practices, etc. It is, therefore, not simply a cognitive, but also an emotional, material, behavioural and social transition enacting collective identities. This last point is further developed in Chap. 4 by Paolo Bory, who investigates how the RKCs reiterate and share a common background shaped around founding narratives, anecdotes and 'founding fathers', which constitute the building blocks of their collective identity. In particular, the chapter provides an understanding of how narratives and tropes together contribute to the shaping of a common set of cultural, epistemological and 'stylistic' elements characterising the relationship between RKCs, science and society.

Chapter 5, by Simone Tosoni, adopts an ecological perspective on the digital sphere to address the media-related practices through which RKCs' narratives and belief systems are produced, stabilised and occasionally transformed, sometimes radically. Focusing on the Stop-5G RKC, the chapter aims to shed light on the close relationship between these discursive practices, the knowledge they produce and the organisational forms taken by social worlds claiming that non-ionising electromagnetic radiations have dangerous non-thermal effects. In particular, it shows that, during the pandemic crisis, the Stop-5G RKC transformed its discursive practices (and, consequently, its shared knowledge and narratives) from a 'scientific patchwork' storytelling approach—based on a rigid definition of borders and the selection of scientific sources—to a 'syncretic patchwork' one based on a combination of different and sometimes conflicting

discursive sources (e.g. scientific knowledge, folklore, new age spirituality and conspiracy theories).

The issue of how specific social configurations can sustain the process of conferring credibility on RK is addressed by Ilenia Picardi, Luca Serafini and Marco Serino in Chap. 6. By combining the theoretical and methodological framework of Social Network Analysis and the SWF, it investigates the processes of association at work within the discursive universes of RKCs, aiming to uncover the discursive configuration structures which build, maintain and legitimise different forms of refused knowledge. Hence, Picardi et al. make the case that addressing the issue of how people actually give credibility to health-related refused knowledge inevitably challenges researchers to consider fundamental issues about the way they recombine epistemic stances and beliefs about the social and political organisation of science, and of biomedicine-related fields.

Following this line of inquiry, in Chap. 7, Stefano Crabu sheds light on the RKCs' contentious relationship with the political conditions under which biomedical knowledge is shaped and mobilised by health professionals. In so doing, it elucidates how this contentious dynamic is entangled with the ways in which RKCs confer credibility and reliability on refused knowledge. Hence, the chapter shows that RKCs are not merely concerned with challenging the content of scientific and biomedical knowledge but also with questioning its epistemic, professional and economic roots: that is RKCs argue that claims and knowledge elaborated and enacted in the context of biomedicine, and the life sciences in general, are entangled with particular social, political and material interests, and therefore not to be believed, or at least to be treated with scepticism. Hence, conferring credibility on refused knowledge involves not only assumptions about trust and truth, but also a critical scrutiny of how the State and related governmental bodies, medical agencies, life scientists and health professionals control, manage and reshape the very vital capacities of human beings as living bodies. This critical scrutiny implies the mobilisation of certain arguments that can be specific to a single RKC, or cut across multiple social worlds, thus generating a shared discursive arena.

The process involved in enacting broad discursive substantive arenas (see Clarke & Star, 2008) is explored in Chap. 8 by Barbara Morsello,

Federico Neresini and Maria Carmela Agodi. In so doing, it highlights the role played by both human and non-human agents (such as the technologies mobilised to counteract the spread of Sars Cov-2 and the actors considered experts by RKC followers) in enacting counter narratives about the COVID-19 pandemic, so as to make sense of the global emergency according to a body of refused knowledge. Hence, the chapter illustrates how these counter narratives progressively empower RKCs to collaboratively act within a broad discursive arena, fostering public dissent against public health policies. Indeed, RKCs permeate public discourses about emerging societal issues in depth, also attracting the attention and concerns of both policymakers and media operators.

In Chap. 9 Paolo Giardullo—shifting the analytical focus to how refused knowledge circulates in the wider public sphere—explores how Italian newspapers cover and frame issues and concerns raised by RKCs. In so doing, Giardullo focuses on the issues advocated by the four concerned RKCs in two interconnected ways: a quantitative presentation of coverage through a longitudinal analysis of the whole body of articles published by eight Italian major newspapers from 2010 to 2022, and a qualitative account produced by means of content analysis addressing the issue of the institutionalisation of scientific knowledge through the delegitimation of RKC claims. This analysis highlights the ways in which media narratives about refused knowledge can play an ambivalent role both in sustaining the public legitimacy of science and in opening new spaces for public dissent regarding techno-scientific expertise.

Finally, in Chap. 10 Barbara Morsello offers a reflexive account of the overall fieldwork conducted by the research team into the four RKCs. A reflexive account is particularly important here as refused knowledge followers share a widely held belief that academics in general act as spokespersons for epistemic regimes that they see as responsible for ostracising their knowledge within the public sphere. An additional element making a reflexive account even more urgent is that RKC followers may hold beliefs, values, assumptions and political views in sharp contrast to those of the researchers engaged in the fieldwork. Against this backdrop, Morsello's reflexive stance explores the challenges that researchers engaged in studying the concerned RKCs face in their attempts to negotiate and conduct interviews with refused knowledge followers.

Overall, the book suggests that framing the contestation of the epistemic authority of science in terms of generalised anti-science campaigns or a current deviant irrational 'zeitgeist' may be less helpful than treating RK as a specific way of knowing the world and of producing specific claims in a complex relationship with prevailing epistemic institutions. RK is shaped and mobilised through everyday experience, procedural argumentation and, sometimes, by mobilising the argumentative repertoires and explanatory rhetoric pertaining to science by means not only of 'experiential experts' but also of institutionally recognised experts who publicly present and legitimise pieces of RK, or question consolidated scientific matter of fact as an object of public concern. Thus, far from assuming a simple dichotomy between 'rational science' and 'irrational anti-science', what the book makes apparent is the specific mobilisation and selective use of symbols, grammars and experiential observations, as well as certain scientific authority procedures to co-produce a social order on the basis of RK rooted outside the epistemic borders of science.

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