

Cecile Malaspina  
*An Epistemology of Noise*  
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Malaspina's *An Epistemology of Noise* is a philosophical discussion of the concept of noise, illuminating both its preconditions and its far-reaching implications. In a literal sense, "noise" describes possible forms of human perception related to aesthetics, acoustics, and audiometry. Figuratively, noise connotes a range of negative qualities associated with disturbance, disruption, or perturbation. After we recognize that noise, especially in its aesthetic or commonsense usage, is defined relationally, and occupies the negative position in a dichotomy with sound, we might ask: is there anything more to know to about noise? *An Epistemology of Noise* proves that there is. Considering noise an epistemological problem as Malaspina does, its structural relevance for the theory of knowledge becomes clear. Indeed, Malaspina shows that noise allows us to address the epistemological question "how does knowledge constitute itself in the face of contingency"? and its flip-side "what role does uncertainty play in the constitution of knowledge"? (39) In this respect, the potential of the notion of noise has been largely neglected and is therefore still unexplored.

The fact that noise has underpinned many diverse domains and fields of knowledge already testifies to its conceptual richness. Throughout the book, Malaspina retraces the notion's "transduction" (94-96), from cybernetics and information theory to acoustics and finance, through physics, statistics and biology. Here I will limit myself to sketching out the main insights of the book, before concluding with some of the general questions it raises.

The book consists of three parts: in the first ("Concepts: Information Entropy, Negentropy, Noise"), Malaspina carefully reconstructs the semantic and conceptual field in which noise appears as a key term, next to "variation", "error", "information," and "uncertainty". These first chapters aim in particular at "a reevaluation of various aspects of noise [...] by relativizing its opposition to information" (48) – and by doing so they lay out the theoretical architecture of the whole book. Malaspina's analysis starts from two paradigmatic definitions of information: "information entropy" (C. Shannon, *Mathematical Theory of*

*Communication*, 1964) and information as negation of entropy or “negentropy” (N. Wiener, *Cybernetics*, 1961). Whereas the former definition sees the informative value of a message as depending on the degree of novelty, and therefore of unpredictability, that it carries, the latter relates information to the degree of organization of a system, and thus relegates noise to a form of disorder and contingency that must be tamed for communication to be successful. Malaspina’s sympathy lies with Shannon’s definition, which acknowledges the heuristic value of noise. Nevertheless, it is Wiener’s cybernetic understanding, which implicitly reinvigorates the Cartesian ideal of a knowledge without noise (10), that has gained discursive prominence in both the natural and social sciences. After showing that, despite their symmetric opposition, the two definitions are grounded in the same mathematical understanding of Ludwig Boltzmann’s statistical formulation of entropy (27), Malaspina tries to reconcile them. What Malaspina looks for is a dynamic of suspension or metastability between the two opposing extremes posed by Shannon’s entropic dispersion and the structural inertia implied by Wiener (73-76).

Part two (“Empirical Noise”) is dedicated to the main empirical applications of noise in domains such as astronomy, where noise appears as cosmic background radiation, and finance, where it stands for the unpredictable price and volume fluctuations in general equity trading (119). The case of finance is particularly relevant to demonstrating the scope of Wiener’s cybernetic paradigm: especially after the 2008 economic crisis, the intense drive to tame the risk connected with assets volatility (noise) has led to an avalanche of regulatory procedures that, instead of securing the financial system, make it more rigid and therefore paradoxically more vulnerable to large and unexpected shifts (Walter 2010). Within a neoliberal framework that sees markets as the result of the spontaneous emergence of order from noise (121), regulation has shifted from a non-constraining form of organization of collective interaction to a mechanized and automatized form of management (Rodarie 2015).

Malaspina addresses the acoustic meaning of noise only in chapters IX and X. Especially when compared to the preceding discussion of noise and information, this analysis of the distinction between noise and sound is not particularly deep. This is a pity, since, among other things, the polyvalence of the word “sound” – which, as an adjective, means “reliable” and “valid” in the context of, for example, an argument, or “secure”, when referring to an investment – would have been an interesting counterpoint to the epistemological analysis of noise. Still, Malaspina does reflect on how historically noise pollution has chiefly been a product of science and technology in industrial modern societies (144). He shows how noise pollution is the site of many power struggles over the possibility of governing individuals through the regulation of noise. Like

waste (Pellow 2002), another byproduct of industrialization, sound has been progressively weaponized (157) not only in warfare but also as part of a growing number of environmental hazards threatening vulnerable communities.

Extending this “biopolitical” approach, part three (“The ‘Mental State of Noise’”) opens up an interesting perspective on cognitive and psychological noise and the problem of subjectivity. In this context, noise is taken as both a symptom and a factor of dissociative disorders in individuals unable to cope with experiences they perceive as excessively chaotic and multifarious (170). Here Malaspina undermines another Cartesian assumption: that of a coherent, integrated self (172). The analysis focuses on those subliminal processes, such as pharmacological regulation of physiological feedback mechanisms, that can be considered the far-reaching effects of a “control society” deploying the cybernetic paradigm of noise control with the goal of its total effacement (208).

The choice of noise as a prism through which to analyze critical epistemological issues is the most interesting and original aspect of the book. This choice is in tune with what can be seen as a constitutive trait of contemporary French epistemology, which typically tries to understand the ‘same’ by studying the ‘other’, variously understood as the scientifically “alien”, the biologically abnormal, or the socially deviant. A host of French epistemologists whose insights punctuate the book – from Jean Cavailles and Gaston Bachelard to Gilbert Simondon and Michel Foucault – are understood by Malaspina to have moved against the Cartesian tradition by showing how error is in fact at the root of knowledge (10, 89). Georges Canguilhem inspires the central tenet of Malaspina’s argument: the defining link between noise and normativity (106-107, 217). Noise, just like its alleged opposite, order, are not original, ideal states but rather the result of normative activity constantly in the process of re-polarizing the epistemological field (113). Order is the result of ordering, and the normative aim of carving information out of noise characterizes the practices of the scientist, the statistician, the historian, and the artist alike (75; 116). Only in this sense does it become possible to say, paraphrasing Canguilhem, that noise is a “subversion to the norm” which, though logically a result of the latter existentially precedes it (cf. Canguilhem 1991, p. 234).

What then is Malaspina’s tentative answer to the epistemological problem of noise mentioned at the beginning of this review?

Noise, understood as maximum uncertainty, is what calls forth and precedes the normativity of reason, i.e. the judgment according to which uncertainty is valued as informative or discarded as spurious [...] We can now think of noise in terms of a fundamental epistemological contingency, a state of suspension or indecision, from which reason emancipates itself with acts of self-grounding [...] what is at stake with

the question of noise, is ultimately a vital and epistemological normativity, an emancipatory act of self-grounding (217).

The self-authenticating features of reason that Malaspina's analysis of noise brings to the fore thus should not lead us to think of *An Epistemology of Noise* as a book negating the reality of noise and making it a mere object of discursive practices and power relations. There are indeed passages in which some such post-modern flavor surfaces, e.g. when she claims to be looking for "reasons for the new conceptualizations of noise as a culture of doubt" (137). Yet the physical existence of noise is certainly not denied in this book (156), whose overall strategy is that of recognizing and fully deploying the "positive epistemic value" of noise (74) by showing the constitutive role it plays in the formation of knowledge (9).

*An Epistemology of Noise*, although at times suffering from a non-linear and not always clear argumentative progression, is coherent and thought-provoking work. While focusing on epistemology, it lays out the foundations for conceptualization of a complex "noisescape" (cf. Schafer Murray 1994) that comprises aesthetic as well as ethical and political dimensions. The book provides a powerful but clear and accessible framework for situating the now-flourishing philosophical field of noise studies. Given its focus on epistemology, the book will also be of value for anyone interested in theories of knowledge, philosophy of science, or history of science.

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