

**Les sciences et les techniques, laboratoire de l'Histoire:
Mélanges en l'honneur de Patrice Bret**
**[Science and technology, the laboratory of History: A collection
of essays in honour of Patrice Bret]**

by Liliane Hilaire-Pérez and Catherine Lanoë (eds.) (2022) Presses des Mines.

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The STS-adjacent disciplines of the history of science and the history of technology have undergone many of the same changes as STS. In both disciplines, for example, there has been an increasing emphasis on peripheries and on material practice. For decades, the eminent French historian of science and technology, Patrice Bret, has been at the forefront of these changes. Liliane Hilaire-Pérez and Catherine Lanoë's edited collection *Les sciences et les techniques, laboratoire de l'Histoire* (2022) is an homage to Bret. Many of the chapters thus relate to the historical time period in which Bret specializes: the second half of the eighteenth century and the first half of the nineteenth century, a period marked by the collapse of the Ancien Régime, the tumult of the French Revolution, and the Napoleonic wars. Hilaire-Pérez and Lanoë argue that Bret's influence was such that it exceeded the bounds of his own discipline, causing traditional historians to take up the methods and the objects of study of historians of science and technology. Hilaire-Pérez and Lanoë's edited collection is clustered into thematic groupings, with each section emphasizing a different aspect of Bret's influence. The first part is devoted to the relationship between science, technology, and the state. The second part centers on chemistry, a domain that blurs the boundaries between science and technology, as the science of chemistry has always been bound up with technological innovation. The third part relates to the circulation and translation of knowledge, between and within nations and continents, while the fourth part is concerned with the role of women in science and technology. The common thread, as the editors remind us, is the emphasis on the marginal figures – Jean-Claude Pingeron, Jean-François Fontallard, Gilbert Romme and Peter Simon Pallas, for example – and the material practices – such as translation, indexing, and care work – that enable the circulation of knowledge. This focus on materiality and marginality stands in sharp contrast with the concerns of earlier historians of science. Over the past few decades, the object of study of the history of science has shifted from the internalist study of intellectual history – the content of science – to the externalist study of its social context (Shapin

1992). Similarly, the previous emphasis on the study of major figures, situated in the European or North American metropolises, has given way to an emphasis on secondary actors and peripheral locales. Finally, the strict demarcation between the history of science and the history of technology has collapsed, as has the demarcation between history and the social sciences. All of these tendencies can be discerned in *Les sciences et les techniques*. For example, whereas an earlier generation of historians of science largely limited themselves to the study of “great men”, such as Lavoisier or Linnaeus, Virginie Fonteneau (Chapter n. 8) examines the *préparateurs* – the lab assistants – who set up the instruments for the lectures of illustrious chemists. These secondary actors often came from pharmacist families and had knowledge that was technical, rather than theoretical. Similarly, whereas an earlier generation of historians of science largely limited themselves to the study of Europe, Lorelai Kury (Chapter n. 12) sets her sights on the periphery, comparing two eighteenth-century Brazilian naturalists: the military officer Domingos Alves Branco Muniz Barreto (1748-1831) and the friar José Mariano da Conceição Velloso (1742-1811). To study peripheral science and technology is to study the social context that enables knowledge claims and technologies to prevail – a concern that has been central to STS since its inception. But whereas the canonical works of early STS scholars emphasized the social context of major figures – for example, Latour’s (1988) work on Louis Pasteur – contemporary STS scholars and historians of science emphasize lesser-known figures, as well as peripheral locales. The contributors to *Les sciences et les techniques* do not explicitly invoke the STS canon. This may sound surprising, given that this canon includes the works of French scholars like Bruno Latour or Michel Callon. Still, the book shares many of the concerns of STS, and notably questions the relationship between technological innovation and politics. In Chapter n. 4, Irina Gouzévitch relates the conflict that ensued, at the end of the eighteenth century, between the inventors of two competing telegraph technologies. The telegraph invented by the Frenchman Claude Chappe included a signaling device that resembled two human arms, with each arm held aloft on its own pole. In contrast, the telegraph invented by the Spaniard Agustín Betancourt and the Swiss Abraham-Louis Breguet included a signaling device that resembled the face of a watch, with a needle pointing to individual letters and numbers. Both technologies were optical telegraphs that relied on telescopes to discern messages that had been spelt out from afar. Although a committee of experts from the Académie Royale des Sciences deemed the foreign technology to be superior, government bureaucrats opted for the technology that had been developed by a Frenchman. This recalls the oft-repeated observation that technology cannot be separated from politics – represented in this instance by the Napoleonic army, which ended up conveying messages via the telegraphs of Chappe. In another example, Isabelle Lémonon Waxin (Chapter n. 15) relates that the creation of indexes for chemistry textbooks was often done by women, and that the categories identified by women indexers shaped the field of chemistry itself. This recalls Bowker and Star’s (2000) observation that classification has material effects. Bowker and Star described how the inclusion or non-inclusion of a disease in the International Classification of Disease (ICD) affected subsequent diagnoses of the disease. Similarly, the chemical categories identified by women indexers influenced the subsequent development of the field of chemistry. As such, indexing represents a significant but unacknowledged contribution by women to chemistry. The most well-known contribution of French intellectuals to STS the-

ory is undoubtedly actor-network theory, also known as the sociology of translation. Several of the chapters in *Les sciences et les techniques* are about translation in the literal sense, as it is an essential aspect of the circulation of knowledge, as well as one of Patrice Bret's research interests. But Anne Collinot's chapter (n. 14) on Monique Lévi-Strauss is about translation in the sociological sense. By describing the care work – which included emotional support and even cooking – that Monique Lévi-Strauss provided for her famous husband, Collinot recalls Hélène Mialet's work (2012) on the entourage that enabled the work of the physicist Stephen Hawking. Valérie Burgos Blondelle (Chapter n. 16) combines scientometric and feminist methods in her analysis of the archives of the journal *Bulletin of the Society for the Encouragement of National Industry* (1802-1945). Burgos Blondelle searched the journal archive for keywords suggesting the contributions of women, identifying contributions that ranged from the authorship and translation of journal articles, to the financial sponsorship of the learned society, to the invention of a useful technology – specifically, a device for measuring the level of alcohol in wine. By uncovering such a wide range of contributions, the chapter is a strong contribution to the feminist tradition. A weakness common to many edited collections is a certain lack of cohesiveness. *Les sciences et les techniques* is not immune to this tendency, although to a lesser extent than most. Its cohesiveness is undoubtedly due to its organization according to the various interests of Patrice Bret, interests that were diverse but that shared a common concern with marginality. The book would have benefited, moreover, from a brief overview of the work of Patrice Bret. As it stands, the editors and the contributors assume that readers will already be familiar with his work. The book excels, however, in providing a nuanced understanding of marginality. Whereas peripheral science, for example, is often understood as the science of formerly colonized nations, in this book peripheral science is usually framed as the science of Eastern Europe or the French provinces. Far from being a limitation, this provides STS scholars with a more nuanced understanding of marginality and peripheral science, one that is not restricted to the binary opposition between Europe and North America, on the one hand, and the rest of the world, on the other. The editors argue that Bret inspired historians to take up the concerns of historians of science and historians of technology. By providing European examples of peripheral science, the contributors to this volume redefine marginality not just within the history of science or the history of technology, but within history writ large. The book will be of particular interest to STS scholars who wish to remain *au courant* with trends in the intertwined histories of science and technology, as they relate to eighteenth- and nineteenth-century continental Europe. Many canonical works from the early days of STS relate to historical topics, including early modern topics, the most well-known example being Shapin and Shaffer's (2011) *Leviathan and the Air-Pump*. But pre-20th century historical topics are virtually unheard-of in contemporary STS, an omission that Peter Dear and Sheila Jasanoff (2010) have criticized. Moreover, despite the canonicity of French-inflected STS theory, the dominance of English-language publishing in STS often brings with it an emphasis on Anglo-American topics, at the expense of the rest of the world. From an STS perspective, the book's greatest strength may be that it serves as a necessary corrective to the presentism and Anglo-American dominance of STS.

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