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Compte rendu

Scott L. Montgomery, *Science in Translation: Movements of Knowledge Through Cultures and Time*. University of Chicago Press, 2000. xi + 325 pp.

Science Across Cultures

When she was 29 years old, the 18th-century French aristocrat Émilie du Châtelet, feeling that her best years were behind her, decided that her intellectual powers were insufficient for genuinely original scientific work (this after she had already produced work on physics and the nature of fire); she would be better off, she felt, turning her energies to the more "mediocre" work of translation. She ended up translating the whole of Newton's *Principia* from Latin into French, a work that remains, to this day, the only complete French translation of that seminal text in the history of physics. Although du

Châtelet's story does not figure in Scott L. Montgomery's fascinating new book, *Science in Translation*, it is precisely this belief that the translating of scientific works is merely mechanical (and therefore of minimal historical importance) that Montgomery sets out to challenge.

Montgomery, himself an experienced scientific translator, begins his story with a study of the ways in which ancient Greek science was rendered into Latin by Roman patricians. He then turns from the West to the East as he explores the transfer of Greek science into, first, Syriac (a dialect of Aramaic), and then Arabic. The transfer of first Arabic science and, later, certain texts of Greek science into the Latin of medieval western Europe then commands his attention. Part II is an extended look at the movement of European science into Japan from the 16th through the 20th centuries. Finally, musings on current issues in scientific translations form the lengthy conclusion.

What ties this enormous sweep of history together is Montgomery's argument that, first, the process of translation has been of the utmost importance not simply for the transfer but also for the development of science in several of the world's greatest civilizations. Second, this process inevitably transforms as much as it transfers knowledge from one intellectual and cultural context to another. Indeed, his closing observations on the challenges of scientific translation in the modern world (including the question of the predominance of English and the role of the Internet in expanding its linguistic hegemony) should be read by every scientist who participates in international networks of scientific exchange.

This is a book that will reward the patient reader, although it may frustrate others. In some respects it is too full, in others too meager. Montgomery is generous in the details he offers of these various scientific traditions and presents a masterful synthesis of scholarly literature from a variety of fields. The attentive reader will probably not be overwhelmed by the many scientific concepts or multiple examples from the original languages, but this is not a work that can be readily skimmed. On the other hand, the richness of detail that Montgomery offers might have been better balanced by more general synthesis and attention to larger historiographic questions.

The importance of translation has long been recognized by historians of medieval science (both Arabic and Latin); indeed, it has been at the center of historiography in these fields for decades (a fact Montgomery elides when he claims how novel his own synthesis is). What medievalists have increasingly realized is that sometimes it is just as fruitful to pause and consider what texts were *not* translated as to consider the ones that were. Montgomery speaks of translations of "Newton" and "Darwin" into Japanese, although in fact it was only textbook-like epitomes of Newtonian and Darwinian science that were at first rendered. He acknowledges that Herbert Spencer's work preceded Darwin into Japan, with profound consequences for racialist and eugenicist thought in the early 20th century. But the larger point that translation activity is affected both by the accidents of book circulation (one cannot translate a book that one cannot get hold of) and by the *choices* made by translators of the books available to them is never sufficiently explored. Philosophers and patrician gentlemen of ancient Rome had no need to translate all of Greek science into Latin since they

themselves would have known Greek (witness Marcus Aurelius, who composed his *Meditations* in Greek) and were able to employ Greek-speaking intellectuals as their tutors, physicians and architects. It was only after the Roman dominion of the western half of the Mediterranean basin began to wither that the intellectual riches of the Greeks (which elites in the West had hitherto taken for granted) were no longer readily accessible.

For the most part, however, Montgomery is scrupulous in laying out the involved and fascinating political and social circumstances that brought these different societies into contact. It is precisely in demonstrating how laden all scientific language is with cultural overtones, with embedded traces of the circumstances that brought it into existence, that Montgomery has contributed important observations on the nature of scientific systems that are, increasingly, becoming the property of the entire globe.— *Monica H. Green, Department of History, Duke University*

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