best-known mathematician correspondent is Nikolai Lobachevskii at Kazan′, one of the founders of non-Euclidean geometry, an insight that Gauss had worked out for himself; the sole letter is an expression of thanks for election in 1843 as corresponding member of the Göttingen Academy of Sciences, which is transcribed after forty pages of editorial preparation and has been published before.

Nevertheless, there is much valuable information in these chapters, and the first part of the book is of more general interest, since across 140 pages it provides a wealth of information about both Gauss's interests and Russian academic life. It covers the universities of his correspondents and the Saint Petersburg Academy, the development of a geomagnetic map for Russia, and the surprisingly large number of published translations of Gauss's books and papers into Russian, which was started in the 1830s by students and continued especially in the Soviet period. Even the circumstances of Gauss's learning and reading Russian are covered. The absence of a subject index is regretted, but the book is lavishly provided with a huge bibliography of primary and historical sources, capsule biographies of the large number of figures named in the book, and illustrations of various kinds, including of Gauss's enviable calligraphy. The edition is a valuable contribution to the history of Russian science in the mid- and late nineteenth century, far beyond the matters discussed in the correspondences.

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Harriet Ritvo, **Noble Cows and Hybrid Zebras: Essays on Animals and History**. Charlottesville and London: University of Virginia Press, 2010. Pp. x+239. ISBN 978-0-8139-3060-2. $39.50 (hardback).
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Harriet Ritvo is very well known to scholars in animal studies and the history of biology. Her groundbreaking work has inspired innumerable books on animals in history, including her own Johns Hopkins series Animals, History, Culture and the Reaktion sequence which, at one volume per animal, now stretches to over fifty books. Ritvo's books *The Animal Estate* (1987) and *The Platypus and the Mermaid* (1997) were both classic studies of the cultural contingencies of animal taxonomy in particular, and of human–animal relations generally. More recently, *The Dawn of Green* (2009) has struck out into environmental history, relocating the relationships discussed in these earlier volumes beyond the confines of human culture, and placing them within the landscape itself. *Noble Cows and Hybrid Zebras* fills in some of Ritvo's output in the decade-long gaps between these monographs (mostly the first two), being a collection of essays previously published in sundry journals and edited volumes.

Lord Morton's mare casts her stripy shadow over a good deal of the book. Her first foal, sired by a quagga (a now-extinct relative of the zebra), turned out somewhat stripy – so far so unsurprising – but so did her two subsequent offspring, born to a black Arabian stallion. This Victorian factoid (the results were first reported in 1821) was supposedly proof of telegony, the ongoing influence of a female's first mate. Lord Morton's tale loomed large over warnings to breeders of all sorts for the next century. They needed to guard the virginity of their animal charges every bit as carefully as that of their women; a stray mongrel could wreck the pedigree of a good bitch's descendants. Eighty years later, similar experiments were reprised by James Cossar Ewart and displayed at the Royal Agricultural Society of England; opinions were divided on the use and utility of his investigations, although the takings of his show (an additional sixpence on general admittance) were healthy.

This example highlights several key themes of Ritvo's collected scholarship: pedigree (both human and animal), provenance, gender, farming, commerce and display. The Victorians were both sceptical of this stand-alone anecdote, and unable to jettison it completely, so well did it fulfil

certain cultural norms. Charles Darwin was by no means alone in his attempt to validate it through recourse to atavism, in his *Variation of Animals and Plants under Domestication*. And speaking of this book, Ritvo's foreword to it, reprinted here, is probably the most succinct account of Darwin's changing, and non-neo-Darwinian, conceptions of evolution that I have read. Ritvo offers a similarly definitive account of human/animal *différance* in the paper 'Our animal cousins'; together with Schiebinger's work in the early modern period, it is an authoritative summary of the multiple and often surprisingly tenuous animal mappings between 'us' and 'them'.

In many ways the *Variation* is the key intertext for this collection. Ritvo's accounts of animals in human culture cumulatively reassert artificial breeding as synecdoche for evolution, not merely its metonym or analogy. Her volume constitutes a counternarrative to the traditional Darwinian history; she demonstrates that beliefs and practices of animal husbandry as craft have a long tale (/tail) of their own, ramifying into diverse areas of culture, of which 'science' is merely the tip of the iceberg. We cannot separate, Ritvo implies, the stories of humans and animals, whether those stories masquerade as 'historical' or 'scientific'.

Ritvo comments that when she began her career 'it was considered both unusual and eccentric' to study animals (p. 1). Reassembling Ritvo's essays in chronological order, one sees how she has been able to grow increasingly specific and go deeper as time went by. In her later pieces Ritvo no longer has to scope out the ground, but can indulge in species-specificity – in detail, in complexity and in ambiguity. That some of this collection now appears to be common knowledge amongst historians of biology is testimony to the authority and influence of Ritvo's *oeuvre* thus far. Her newer work on environmental history gestures at a historical imbrication of humans and animals that comes to terms both with history and with science: neither naively biologized nor wilfully humanized as cultural history. Ritvo's is a rapprochement that is of great value in these days of environmental crisis.

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Christopher Pinney, **Photography and Anthropology**. London: Reaktion Books, 2011. Pp. 174. ISBN 978-1-86189-804-3. £17.95 (paperback).
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Christopher Pinney, in this richly illustrated and sharply focused monograph, highlights the intersection between two tools for investigating the cultural and natural worlds of the nineteenth and twentieth centuries. As Pinney effectively points out, photography and anthropology grew up together, and an investigation which deconstructs their contexts of use brings out some very useful insights into the construction of an anthropological way of looking and the application of a technology for looking. While Pinney's analysis spans the construction of an anthropological discipline from the establishment of the Ethnological Society of London in 1843 to the field of visual anthropology at the time of the book's publication, he is able to tell a compelling story in a relatively short space about the shifting mobilizations of photography for the study of human diversity. While photography and anthropology each have complex theories of use, the strength of this monograph is the way in which Pinney is able to navigate through these choppy waters with clarity, using a thick description of visual and textual materials.

Photography and Anthropology, importantly, sits within a successful series by Reaktion entitled Exposures, which investigates the relationship between photography and another aspect of technology, geography or culture. Other monographs in the series, which will be of particular interest to historians of science, include Kelley Wilder's *Photography and Science* (2009) and François Brunet's *Photography and Literature* (2009). In its entirety this series acts as an important addition to the historiography of photography – in addressing photography through micro-histories this series is able to speak to much larger questions about the epistemological,