BOOKS: HISTORY OF SCIENCE

Taxonomy Recapitulates Society

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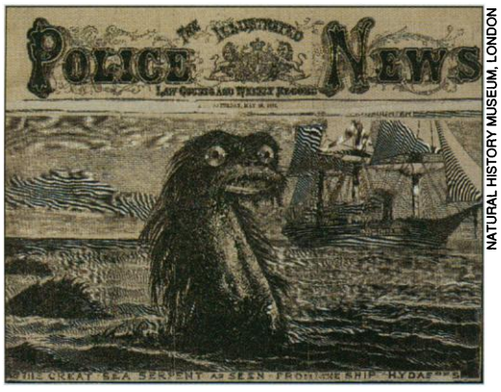
The Platypus and the Mermaid and Other Figments of the Classifying Imagination. HARRIET RITVO. Harvard University Press, Cambridge, MA, 1997. xvi, 288 pp., illus. $29.95. ISBN 0-674-67357-3.

In an 1869 cartoon from the magazine *Punch*, a railroad porter tells a lady traveling with an assortment of animals: "Station Master say Mum, as cats is 'dogs,' and rabbits is 'dogs' and so's parrots; but this ere 'tortis' is a insect so there ain't no charge for it!" Thus begins *The Platypus and the Mermaid and Other Figments of the Classifying Imagination*, illustrating a central theme of the book, that classification systems reflected the particular needs and experience of the people who developed them—in this instance, the railroad bureaucracy. Tortoises were classified as insects for the purpose of assessing rail freight charges.

Taxonomy is often regarded as boring, as a mindless ordering. However, Ritvo's study of 18th- and 19th-century British taxonomic practices is premised on the belief—repeatedly espoused by anthropologists—that classification of important objects such as animals can reveal as much about the classifiers as about the classified. The way we order the world reflects how we think about it. The humor of the cartoon depends, in part, on the fact that people do not think parrots are dogs or that tortoises are insects.



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A lurid sea serpent. *Illustrated Police News*, 1876.

Classification is about drawing boundaries, grouping objects according to similarities. The title of the fourth chapter, "Out of Bounds," which explores the meaning of monsters and monstrosities, expresses the subtext running throughout the book. Ritvo's emphasis is on those animals that cross boundaries and defy easy classification. The platypus and kangaroo continued to attract attention, not just because they looked so physically odd, but because the oddity "extended to the level of theory." Marsupials and monotremes represented the "mammalian other," calling into question the zoological assumptions on which the classification of mammals was based. Mermaids "challenged the established order of nature, which offered them no place." Sea serpents were even more threatening to institutionalized science: Unlike mermaids, which had been exposed as hoaxes, serpents had never been captured or counterfeited and could not be assessed by the standards of the laboratory—yet their existence was supported by numerous eyewitness accounts given by highly respected individuals. Hybrids, by definition, crossed species boundaries. Likewise, hermaphrodites and bearded, but otherwise often feminine, ladies challenged the boundaries between the sexes. Furthermore, because hermaphrodites were commonly found only in lower plants and animals, human hermaphrodites threatened to undermine the barrier between humans and the rest of the animal world, according to Ritvo.

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Charles Waterton's unclassifiable fake "beast."

By exploring a variety of taxonomic practices that become "increasingly vernacular in focus," (her final chapter, "Matters of Taste," discusses how classification reflects which animals are suitable for hunting and eating), Ritvo wants to situate the technical classification of animals in 18th- and 19th-century Britain in a larger context. She admits that some very important advances, particularly those related to evolutionary theory, do not play a substantial role in her narrative. However, she justifies this decision by pointing out that, in recent years, much excellent scholarly work has been done in this area.

Although this point is certainly true, her relegation of evolution to the background, in a study whose primary focus is on classification in 19th-century Britain, is somewhat problematic—especially since, in many instances, her story would have been enriched by including evolutionary considerations. For example, in her portrayal of William MacLeay's quinary system, a more thorough description of the meaning of "affinity" and "analogy," and of the relation between affinity and Richard Owen's term "homology," would have been useful.

Darwin realized that good naturalists, in their search for affinities (or homologies), were trying to distinguish superficial similarities from more meaningful ones—although they did not appreciate that the order for which they were searching was due to descent from a common ancestor. Thus, it could be argued that no major conceptual shift was needed for taxonomists to incorporate Darwin's theory into their work. However, a serious debate exists among scholars today about how much evolutionary theory actually did affect classification in the 19th century. It would have been helpful if Ritvo had provided the reader with references to this literature, even if she herself did not discuss it.

Much of Ritvo's exposition is based on reading highly varied sources as if "they constituted a single many-sided discourse—a Babel with no dominant voice." This approach is both the strength and the weakness of the book. She wants the reader to experience this information, as the people at the time did, "unprotected by either the clarification or the distortions of hindsight." However, some clarification would have helped her to develop her themes more fully. She suggests throughout the text that social and cultural attitudes influenced the taxonomies—for instance, racist and sexist beliefs were often reflected in the classifications. However, such a motif is somewhat difficult to discern because of the sheer number and variety of stories she tells. Furthermore, this is another area that would have benefited from a more detailed explication of how evolutionary theory threatened—and, at the same time, was used to perpetuate—such attitudes.

A summary chapter that drew together her various themes would have been welcome. Instead, the book ends quite abruptly with a discussion of cannibalism and passing mention of the racism of the Anthropological Society of Great Britain. Nevertheless, this book provides an extremely rich and detailed collection of vignettes illustrating the many ways that Victorians thought of animals, making for thought-provoking and entertaining reading.

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