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Mackenzie Cooley's fascinating book argues that concepts of race and breeding remained in flux throughout the fifteenth and sixteenth centuries. She shows how both Europeans, especially people from the Spanish and Italian peninsulas, and indigenous Americans sought to control the characteristics of different kinds of plants and animals across different generations. Cooley explores theoretical discussions of these topics and their practical implementation by breeders, animal handlers, and others. The results are new insights into how changing ideas about species affected changing ideas about animals and ultimately race in the early modern world. This is a book that all scholars of the early modern world should read.

Cooley structures her book around an introduction and four parts, each with two thematic chapters. Each chapter adds a new perspective into the topics of breeding, species, and race between roughly 1400 and 1600, but the reader at times will need to do some work to tie the interesting chapters together. In the introduction, Cooley defines key terms and explains the sources used for this book, sources that include philosophical treatises, dictionaries, and the Florentine Codex. The book is based on, quite simply, an impressive range of documentary materials in a variety of languages and across several countries.

Part 1 of the book covers philosophical ideas underlying breeding practices and the implications of branding in early modern Europe. Chapter 1 shows how early modern breeders, although operating in a world of theoretical ideas, focused much more on experience and results than the complexities and contradictions of abstract concepts. Breeders sought to select observable traits and match them to the environment in which an animal would live. They believed a range of things about such topics as the degree to which sights observed during mating affected offspring and the extent to which physical appear-
ance revealed the essence of the animal within. Breeders were aware that their efforts might not bring about long-lasting and meaningful changes in characteristics across animal generations. That is, they saw animal razze (race or breed) as unstable and ephemeral. Branding, addressed in chapter 2, was one way that early modern people sought to impose permanency on this situation. Branding designated a specific animal as a specific razza. Consequently, branded animals increased in value and carried connotations of status, and their sale as well as export was tightly controlled.

Part 2 turns from a more general treatment of these topics to two different case studies drawn from each side of the Atlantic Ocean. Cooley claims that these case studies show that “ideas of race diverged from global practices of selective breeding” (p. 74). Chapter 3, then, looks to the court of Mantua and Baldassare Castiglione for evidence. The Gonzaga rulers of Mantua embraced Castiglione's arguments in The Courtier (1528) for the self-fashioning of a Renaissance court. Toward that end, the Gonzaga sought to collect and display a wide range of the exotic, including animals and humans of small stature or from distant places. Horses remained central to their discussions, while breeding remained less stable and more focused on characteristics than ancestral purity. In chapter 4, Cooley explores similar themes across the Atlantic. Cooley shows that Nahua peoples were cultivating particular characteristics across generations in both agriculture and animals before 1492. Cooley shows how the Florentine Codex suggests that people were actively shaping maize and turkeys across long periods of time. However, because indigenous peoples were not focused on the animals or plants deemed most useful to the Spanish, Europeans ignored such efforts. In addition, Mesoamericans seem to have thought about breeding through the lens of seeds. Europeans sought to replace that assumption with their own ideas.

Part 3 turns to how Europeans sought to explain and work with the encounters between the Americas and Europe. Chapter 5 examines dogs. Cooley shows how Nahua peoples were already breeding dogs prior to the arrival of Europeans, and at least five different kinds of dogs already existed in the Americas, even as Europeans and indigenous Americans differed in their goals of breeding dogs. During the sixteenth century, canine culture in the Americas changed as European assumptions pushed out the practices of local peoples. Simultaneously, differences between dogs from the Americas and dogs in Europe forced some European thinkers to reevaluate their conception of what constituted a dog in the first place. Chapter 6 offers a similar treatment of camelids. Unlike attempts to bring together categories of dogs from both sides of the Atlantic, classifications of llamas and camels separated the animals out. Europeans argued that llamas ought to be categorized as a type of sheep. Nevertheless, despite their utility in the Andes, the Spanish viewed llamas as exotic and did not seek to turn their utility to European contexts. Similarly, the Spanish viewed camels of the Canaries, Peru, and North Africa less for their utility and more as strange animals to behold. By the early seventeenth century, some European writers were arguing that camelids were entirely distinct from other types of animals and had, in fact, been present on Noah's Ark.

The book's fourth and final section explores two case studies to show some of the range of ideas available to early modern Europeans to think about race and lineages, as well as the relationships between animals and humans when thinking about those ideas. In chapter 7, Cooley focuses on José de Acosta, a Jesuit Spaniard who spent significant amounts of time both in the Americas and the papal court. Acosta strove to figure out how the peoples, animals, and plants of the Americas could fit into a world that he believed to have been populated by Noah's Ark. Acosta claimed that environments could change characteristics of a type, even as the essence of a
plant or animal remained the same perfect form created by God. Moreover, Acosta argued that conversion and choice could lead people toward God. That view contrasted with the declarations of the Jesuits in the late sixteenth and early seventeenth centuries, which Acosta disapproved of and which declared that people from certain ancestries or bloodlines simply could not convert. In the last chapter, Cooley turns to a different but contemporaneous writer, Giovanni Battista della Porta. Porta was a prolific writer who spent the first half of life fascinated by natural magic before turning to questions about whether physiognomy could reveal the interior characteristics of plants, animals, and people, all of which he viewed as fundamentally linked. Porta's works proved controversial in no small part because of unease at the relationship between physiognomy and free will, but Cooley conclusively shows that that controversy did not impede their spread.

This is a thoughtful book that all scholars of early modern history should read. Cooley reveals a world where ideas about race and the implications of breeding were complex and fluid, when applied to animals, and rarely developed, when applied to people. Certainly, animals could serve as metaphors for human experience, but later horrific ideas about eugenics and even blood-based ideas about race remained largely in the future. Each chapter of this book presents a thoughtful and interdisciplinary analysis based on an impressive range of often disparate sources. Like the best recent studies from the history of science, it convincingly shows the contributions of artisans as well as theoreticians to how people understood and sought to control different kinds of animals. The book's loose structure, with each chapter almost seeming like an essay on a theme, adds to the emphasis of the argument about fluidity and dialogue rather than linearity and stability. *The Perfection of Nature* is an important study with which a wide range of subfields will grapple for years to come.