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From Spectacle to Specimen

Exploring Itinerant Showpeople's Roles in Circulating Natural History Knowledge in Nineteenth-Century Western Europe

▼ **RESEARCH ARTICLE**

▼ **ABSTRACT** Amidst the nineteenth-century funfair, traveling menageries were an important and lucrative attraction providing light-hearted entertainment as well as circulating knowledge on natural history. This article delves into the multifaceted nature of knowledge creation, facilitation, and circulation by focusing on menageries as knowledge arenas, their owners as knowledge actors, and exotic animals as knowledge objects. Menagerie proprietors had different roles as entertainer, entrepreneur, expert, and facilitator: bridging gaps between various social groups, institutions, and geographical locations that resonated far beyond the confines of the fairground. It was this facilitating role that allowed menageries to function as multifaceted knowledge arenas: becoming an entertainment venue, school, artist atelier, or laboratory depending on the people that menagerie owners interacted with; and in its wake transforming these exotic animals into study objects, paintings, photos, and specimens. While knowledge creation, facilitation, and circulation are intertwined processes, engaging a diverse array of actors, research has oftentimes focused more on knowledge creators, offering a partial view. In exploring the multifaceted nature of knowledge, this article draws attention to the often invisible actors that played a facilitating role in the process of knowledge circulation.

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BREPOLS

▼ **KEYWORDS** itinerant showpeople; traveling menageries; knowledge actors; science; art; education; natural history
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Historians increasingly advocate for a broader definition of knowledge: one that extends beyond scientific organizations; includes knowledge in people's everyday lives; and considers the knowledge actors, objects, and arenas that contribute to its circulation.[1] These aspects we find nowhere better than at the nineteenth-century funfair: attractions were set up in the middle of city and town squares, and enjoyed and marveled at by people of all ages and from all social backgrounds. Although we associate funfairs with light-hearted entertainment, they represented one of the only places where the general public encountered the latest advancements in science, medicine, art, and technology.[2] Attractions served as hubs where various forms of knowledge intersected and even traversed beyond the confines of the fairground.

A Multifaceted Lens on Natural History Knowledge

To better understand the process of knowledge circulation between different social groups, I focus on the relations between funfair entrepreneurs and sedentary society, and in particular on traveling menageries which entertained audiences through the display of exotic animals. While zoological gardens and natural history museums have been studied extensively, menageries have received less attention, as signaled by Helen Cowie.[3] Several scholars, such as Cowie and Rieke-Müller and Dittrich, have addressed this gap by focusing, respectively, on menageries' educational aspects in the United Kingdom and their educational and artistic components in Germany.[4] By examining menageries in Western Europe, specifically France and Belgium, I aim to add to this body of work. I focus in particular on the multifaceted knowledge exchanges that were possible, as menageries attracted many different visitors such as children and their families, amateur zoologists, painters, photographers, museum conservators, and scientists.

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1 Östling et al., *Knowledge Actors*; Östling et al., *Forms of Knowledge*; Sarasin, "Another Speciality"; Dupré and Somsen, "History of Knowledge"; Östling et al., *Circulation of Knowledge*; Sarasin, "Wissensgeschichte."

2 Wynants, "Wetenschap op de kermis"; Da Rocha Gonçalves, "Maju"; Wynants, "Travelling Lantern"; Podgorny, "Travelling Museums."

3 For example: Madruga, "Authentic Provenance"; Hochadel, "Science at the Zoo"; Hochadel, "Global Player"; Reinert, "Betwixt"; Woods, "Doctors"; Cowie, "Elephants"; Cowie, "Exhibiting Animals"; Bruce, *Lion Gate*; Hochadel, "Watching Exotic Animals"; Mehos, *Artis*; Hochadel, "Science"; Baratay and Hardouin-Fugier, *Zoo*; Kohlstedt, "Reflections on Zoo History"; Flint, "American Showmen"; Hoage and Deiss, *New Worlds*.

4 Cowie, *Empathy*; Cowie, "Elephants"; Rieke-Müller and Dittrich, *Unterwegs*, 88–131.

While itinerant showpeople's role as animal keepers or animal traders is acknowledged to a certain extent in current research, references are secondary and very brief.[5] I argue that menagerie owners assumed a central role in directly or indirectly creating, facilitating, and circulating knowledge to a diverse set of people in different locations. Östling et al. recently emphasized that investigating the roles and communities in which knowledge actors are embedded, including the agency of less visible actors, is essential.[6] Menagerie owners assumed multiple roles as entrepreneur, entertainer, educator, expert, and facilitator. Their role as knowledge brokers is not immediately apparent, as itinerant showpeople were socially and economically marginalized by society during the nineteenth century. They also largely lived and worked in their own community, often referring to themselves as one large family.[7]

The space wherein a knowledge actor resides is crucial. As such, menageries functioned as knowledge arenas—a term coined by Östling to define platforms that shape or promote knowledge or constrain it from circulating.[8] While menageries' physical makeup stayed the same, the extent of possible exchanges depended on their geographical location and the socio-political acceptance of menageries. Furthermore, knowledge and information not only converged within menageries but also traversed to other knowledge arenas (e.g. universities or museums). In this sense, menageries also took on a multifaceted shape. The exotic animals residing in menageries also functioned as multifaceted knowledge objects that were geographically circulated and/or physically transformed from living animals into drawings, statues, pictures, and specimens.

I want to stress this multifaceted nature because research often tends to remain confined to one type of knowledge, actor, arena, or object. An exception herein is the work of Johannes Westberg, who explicitly traced how teachers as knowledge actors have various roles as educators, authors, researchers, administrators, and politicians within different knowledge arenas.[9] To underscore my argument, I will focus on the actors, objects, and arenas involved and their intricate circulation processes. By looking at natural history through the lens of the history of knowledge, and with a focus on a marginalized group such as itinerant showpeople, we gain more insights into the circulation of knowledge between different types of people and places, and shed light on how these actors and arenas functioned.

Funfairs have been a central part of West European culture since the Middle Ages, with Belgium, France, Germany, Luxembourg, and the Netherlands as important travel axes for itinerant showpeople. Other countries, such as Switzerland, Italy, Austria, Spain, and Sweden, have similar funfair traditions. Western Europe, and particularly France and Belgium, was chosen for its role

5 For example: Cowie, "A Tale," 592, 601; Cowie, "Exhibiting Animals," 302–3.
6 Östling et al., "Revisiting Agency"; Bach, "Marginalized Knowledge."
7 Andersen, "Unfairness."
8 Östling, "Circulation," 122.
9 Westberg, "Multifaceted Knowledge."

as a gateway hub, and the availability of several digitized sources. While funfairs have a long tradition, the late nineteenth century marked the height of the funfair and was also a period when several scientific and technical evolutions took place (e.g. invention of the steam engine and electricity, advances in medicine) that also transformed the fair. Itinerant showpeople were often the first to adopt new technology in their shows. It was also the heyday of traveling menageries and zoological gardens, driven forward by the expansion of zoological science and influenced by the globalization of trade and colonization, resulting in a "natural history craze" where the bourgeoisie and middle class became increasingly interested in collecting and learning about natural specimens.[10]

Sources of Information about Itinerant Showpeople

To trace the networks in which itinerant entrepreneurs moved and the diverse connections they formed, I draw on a wide variety of sources. These include specialized periodicals for itinerant showpeople such as the French journal *Le Voyageur Forain* (1883–1923) and the Belgian periodical *La Comète Belge* (1905–1925), which total over 1,100 journal issues across circa 40 years. They informed *forains* about future funfairs, how and where to apply for a place, discussions of practical and social problems, job postings, advertisements, and much more.[11] Furthermore, I use publications from scientific societies such as the *Bulletin de la Société zoologique de France*, the *Bulletin de la Société d'histoire naturelle de Toulouse*, and the *Bulletin de la Société des amis des sciences naturelles de Rouen*. These journals were published by their respective association and included meeting discussions, smaller communications of work-in-progress, relevant *faits-divers*, and the publication of fully fledged papers. These sources are useful to see whether and in what context showpeople were mentioned as it relates to natural history. In addition, I consulted different newspapers from France (e.g. *L'Indépendant des Basses-Pyrénées*, *Le Petit Parisien*), Belgium (e.g. *La Meuse*, *Gazette de Charleroi*), and Switzerland (e.g. *La Suisse libérale*, *La Tribune de Genève*) from the 1880s to the 1910s. Because newspapers often reported about funfairs, they can give us more detailed information about attractions than we can find anywhere else, as traveling showpeople leave only very minimal traces due to their itinerant nature.

All these materials were sourced from platforms such as the HathiTrust Digital Library, BelgicaPress (Royal Library Belgium), Gallica (Bibliothèque nationale de France), and e-newspaperarchives (Bibliothèque nationale suisse-Médiathèque Valais). Already digitized material, such as the newspapers, were accessed through digital repositories. Other material, such as the showpeople

10 Coote et al., "Commerce," 320–27; Kohlstedt, "Reflections on Zoo History," 3; Veltre, "Menageries," 19.
11 Andersen, "Precious Tool."

periodicals, was (partly) digitized through the resources provided by the European Research Council-funded SciFair project,[12] and acquired through various national libraries' scanning services. Due to the large quantity of these showpeople journals, scientific bulletins, and newspapers, relevant information (e.g. mentions of specific people and attractions, or particular words such as "science" or "menagerie") was either found via digital repositories' keyword search engines when files were not downloadable, or accessed via text files generated from PDFs, and analyzed with the text mining tool AntConc. These distant-reading techniques were continuously combined with close reading the sources.

Lastly, I consulted letters from and to menagerie owners and ledgers giving information on the animals sold or donated from the municipal archive of Rouen and four natural history museums (Genève, Toulouse, Lille, Bordeaux).

Menageries as Itinerant Zoos

Zoological gardens and traveling menageries offered entertainment through the display of exotic animals, capitalizing on their mysteriousness, exotic looks, and dangerousness. Their functions and activities were largely similar: both provided leisure and education, used similar practices to care and train animals, and had a (semi-)scientific purpose. Animals and personnel were also sometimes exchanged, further contributing to their similarities.[13] Yet nineteenth-century contemporaries distinguished between the two, as zoos and traveling menageries sought to set themselves apart to create a particular perception.[14] Zoological gardens depicted themselves as respectable, scientific, educational, and morally sound establishments that had nothing to do with "unscientific" menageries, which only drew customers with "sensational" spectacles.[15] Traveling menageries in turn advertised themselves as amiable, impeccable, and safe establishments due to the animals' good training, and with valuable collections resembling those of zoos.[16]

Nonetheless, there are differences that impacted the scope and outreach of zoos and menageries. The most obvious is of course zoological gardens' permanent location, while itinerant menageries traveled from place to place and were hosted in (decorated) tents and barracks, some of which could be quite large [**Fig. 1**]. Ménagerie Bidel, for instance, had a façade of 70 meters long, and Ménagerie Pianet had a surface area of 1,200 square meters.[17]

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12 "Science at the Fair: Performing Knowledge and Technology in Western Europe, 1850–1914," University of Antwerp, www.scifair.eu.

13 Rieke-Müller and Dittrich, *Unterwegs*, 86–87; Burkhardt, "A Man"; Peel, *Zoological Gardens of Europe*.

14 Rothfels, *Elephant Trails*, 154–56; Reinert, "Betwixt," 182–84; Burkhardt, "Lion keeper," 139.

15 Cowie, "Exhibiting Animals," 12–13, 19–23, 299–304.

16 Grande Ménagerie Européenne; Belle ménagerie Lozérienne; Ménagerie Veuve Pezon.

17 *La Meuse*, October 2, 1880; *Journal d'Indres-et-Loire*, August 11, 1897.

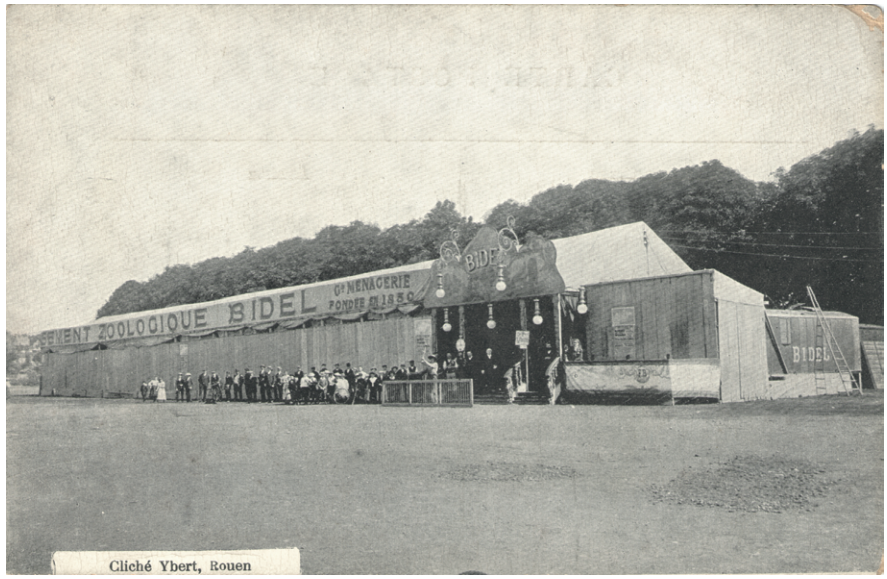

Figure 1. View of the large tent of Ménagerie Bidel in Rouen. Source: Postcard of Grande Ménagerie et nouveau théâtre Zoologique Bidel, photographer Ybert, date unknown, private collection Pierre Taillefer.

In addition, zoological gardens mainly emerged in large, economically vibrant, and industrial cities, such as the *Ménagerie du Jardin des plantes* in Paris (1793), the *Gardens of the Zoological* Society in London (1828), the *Société Royale de Zoologie* in Antwerp (1843), or the *Zoologischer Garten* in Berlin (1844).[18] While they first mainly catered to the upper and affluent middle classes, this soon changed to a broader segment of society, as maintenance costs were considerable. In 1903, one could, for example, enter the zoological gardens of Marseille, Antwerp, or Berlin for the price of 1 franc/mark.[19]

Since the Middle Ages, street entertainers had traveled around with bears and other exotic animals to entertain people at yearly trade fairs. During the nineteenth century, these grew into extensive traveling menageries with large collections of exotic animals, in part due to the use of the railway, which was logistically more efficient and expanded their reach.[20] Among them we find several well-known French menageries, such as that of the prosperous François Bidel; the Pezon dynasty, with multiple attractions; and the Pianet family spanning three generations.[21] They traveled to bigger cities (with or without zoos) such as Toulouse, Nantes, or Bordeaux—which had between 130,000 and 252,000 inhabitants in 1894—as well as smaller towns, such as

18 Baratay and Hardouin-Fugier, *Zoo*, 79–81.
19 Peel, *Zoological Gardens of Europe*, 27, 58, 110.
20 Cowie, *Empathy*, 2, 54–57; Rieke-Müller and Dittrich, *Unterwegs*, 33; Andersen, "Unfairness," 78–79.
21 Thétard, *Les dompteurs*.

Gien or Marmade, with no zoological garden and where fewer people (fewer than 9,000) lived.[22] The entrance fees for menageries varied between a couple of francs and a few centimes. Bidel asked between 1 and 3 francs, while Pianet's prices ranged between 0.30 and 1.50 francs depending on customers attending a show or only visiting the animals.[23] Through their itinerant nature and different prices, they could reach a different audience than those who found their way to zoological gardens in larger cities.

Their administrative and organizational makeup was also different. Most zoological gardens were created by scientific societies or private individuals and run by scholars who employed keepers to take care of the animals. Itinerant menageries were created and managed by showpeople families, as exemplified by the brothers Emile and Jules Pianet, who both had their respective tasks. The former trained the animals and performed the shows, while the latter functioned as a stand-in and occupied himself with the administration of the menagerie and caring for the animals.[24] They also had several employees to help care for the animals and assemble the tents and barracks—something only the more prosperous attractions could afford.

Teaching About the Natural World

Showpeople tapped into the general public's fascination with natural history and exotic animals by framing their menagerie as both a thrilling spectacle and an educational experience. A key example of this is a poster of Madame Veuve Justin Pezon, owner of Ménagerie Pezon, which shows how itinerant entrepreneurs combined dramatic spectacle with scientific rhetoric to attract audiences to their menageries [**Fig. 2**]. Alongside a wide variety of animals coming from different continents, among which a "polar bear of the icy seas with an untamable ferocity,"[25] we also read the following:

> "Natural history, defined as the intelligent contemplation of the works of God, is without doubt one of the most attractive sciences. [...] it interests all minds, appeals to all ages: not one serious or trivial profession fails to draw enlightenment from it. Museums containing all the remains of animals from all parts of the world are like vast cemeteries where all sorts of dust lies, whereas a well-composed menagerie is like a living and exuberant colony. Hear this Lion's roar, hear the Tiger and Jaguar's howl, look at this Bear, see this Leopard leap, they will teach you more in an instant than many books."[26]

22 Union syndical, *L'Indicateur*, 68, 189, 249, 284, 412.
23 *Al galliner*, March 3, 1889; L'exposition nationale Suisse.
24 *L'Étincelle*, January 20, 1894.
25 Ménagerie Veuve Pezon.
26 Ibid.

MÉNAGERIE Veuve PEZON

Madame PEZON a l'honneur de donner avis au public que, par suite du malheur qui lui est arrivé, elle a pris la résolution de continuer les Exercices que faisait son mari, elle entre dans les cages et fait exécuter à ses terribles pensionnaires tontes les manœuvres qu'ils accomplissaient avec M. PEZON.

Elle espère que l'accueil sympathique qui lui a été témoigné dans les villes qu'elle a visitées depuis son veuvage, lui sera continué pendant son séjour dans cette ville.

GRANDE MÉNAGERIE

ZOOLOGIQUE LOZÉRIENNE

de l'incomparable Mme veuve **PEZON**, jeune Reine des Dompteurs

EXHIBITION DES ANIMAUX DES 5 PARTIES DU MONDE

ON Y REMARQUE :

3 LIONS ET UNE LIONNE ADULTES

d'une beauté sans égale, très bien dressés

GRAND TIGRE ROYAL DU BENGALE

Panthère de Java, Panthère de Bornéo, Léopard de la Perse, Guépard des Indes-Orientales, Jaguard ou Tigre moucheté du Sénégal.

OURS BLANC DES MERS GLACIALES

D'UNE FÉROCITÉ INDOMPTABLE

Zèbre du Cap de Bonne-Espérance, Ours de Russie, deux jeunes Ours, nés à la Ménagerie, âgés de 3 mois, les cinq Hyènes barrées et rayées du Sénégal, Loups Cerviers de Sibérie, du Mexique et de Russie, Porc-Epic, Pécarie d'Amérique, Sanglier d'Amérique du Nord, Chacals d'Afrique, Pélican rose de Sumatra, Chèvre du Mont Thibet, Collection de Volatiles, tels que : Augrus couronnés, Perruches, Perroquets, Kakatoës, Aras, etc , etc. — Grande Collection de Serpents Serpent Boa, mesurant la taille de 8 mètres de long. Pithon de Java, Serpent Seba des Indes-Orientales et une grande rotonde à l'instar de Paris, renfermant une grande variété de Singes de toutes races et particulièrement le Gorille (homme des bois).

TOUS LES SOIRS, A **8** HEURES, GRANDE REPRESENTATION

Repas Général de tous les Animaux et Travail Merveilleux

La réunion dans une immense Cage

de trois Lions et une Lionne adultes, parmi lesquels le grand **LION BRUTUS**, une Hyène mouchetée, 3 Hyènes barrées, un Ours de Russie et plusieurs Loups-Cerviers, par l'audacieuse Mme PEZON, qui leur fait exécuter des exercices incroyables et sans pareils.

OBSERVATIONS

Parmi les spectacles forains de toutes sortes qui excitent la curiosité du public, les expositions du genre de celle-ci sont celles qui obtiennent le plus de faveur, on les distingue honorablement de tant d'autres exhibitions futiles ou ridicules, on les suit avec l'avidité qui témoigne de leur valeur scientifique ; mais l'intérêt est plus grand encore quand ce n'est pas une simple exhibition, quand on peut en même temps voir la beauté et les caractères physiques des animaux, leur degré d'éducation et l'empire que peut prendre sur eux une femme d'intelligence, de courage et de volonté.

Tel est le spectacle que Mme veuve PEZON (Justin) propriétaire de cette riche ménagerie, se flatte d'offrir au public.

L'histoire naturelle que l'on a définie, **l'intelligente contemplation des œuvres de Dieu**, est sans contredit l'une des sciences les plus attrayantes.

Base de toutes les connaissances humaines, embrassant dans son cercle l'universalité des êtres créés sur tous les points du globe, elle intéresse tous les esprits, plaît à tous les âges : pas une profession sérieuse ou frivole qui n'y vienne puiser des lumières.

Les musées renfermant tous les restes des animaux de toutes les parties du monde font l'effet de vastes cimetières où reposent toutes sortes de poussières, tandis qu'au contraire une ménagerie bien composée est comme une colonie vivante et rugissante.

Entendez rugir ce Lion, hurler ce Tigre et ce Jaguar, épiez cet Ours, voyez bondir ce Léopard, ils vous en apprendront en un instant plus que bien des livres.

La ménagerie zoologique lozérienne est une des plus belles que l'on puisse voir en Europe, elle est l'objet des soins constant de sa propriétaire, qui tient à ne montrer au public que des animaux remarquables par leur beauté et leur rareté, les étudier, les connaître, les aimer et surtout ne pas les craindre, tout est là ; ce sont aussi les moyens auxquels Mme veuve PEZON (Justin) a voulu avoir recours ; elle ne fait mystère de ces procédés à personne, elle livre son secret à tout le monde.

La Loge est belle, tenue irréprochable, splendidement éclairée au gaz.

PRIX DES PLACES : Premières, **1** franc. — Secondes, **50** cent.

Mme veuve PEZON, directrice, traite à forfait avec les maîtres et maîtresses de pensions pour des représentations spéciales pour les élèves.

Les vieillards et orphelins des hospices et toutes autres institutions indigentes peuvent visiter gratuitement la ménagerie, les dimanches exceptés. — Les JEUDIS et DIMANCHES, à 3 heures, Représentations.

ON DONNE DES CARTES D'ABONNEMENT

Figure 2. Poster of Ménagerie Veuve Pezon. Source: BnF | CNAC, PRO_FRA_0059, https://gallica.bnf.fr/ark:/12148/bpt6k69641634.

Aside from illustrating showpeople's skill in crafting enticing advertisements, it also demonstrates their awareness of the public's fascination with exotic animals. People were intrigued by the wonders of natural history, and their curiosity was satisfied through popular magazines, books, museums, zoos, and menageries.[27] Itinerant showpeople capitalized on this educational trend. Daytime performances were organized for families and children, and regular price reductions or free entrance were offered to the elderly, orphans, and schoolchildren. Providing free admission to a substantial number of people on a regular basis was not feasible for all menagerie proprietors, and only the most prosperous could afford such gestures.[28] In 1880, for example, between 3,600 and 8,000 pupils in Liège were able to visit Bidel's menagerie.[29] These outings were eagerly anticipated by children, who responded with awe and wonder at the sight of these exotic animals.[30]

Menageries not only displayed a mastery over exotic animals, highlighting the animals' grace and wildness, but also often included explanations about the animals.[31] While Rieke-Muller and Dittrich have argued that the information provided by menagerie owners was often limited or not completely accurate,[32] the accuracy of knowledge in general is a complex matter, and in particular in this case, as we have limited sources to investigate it. It is very difficult to gain actual numbers about this. Moreover, nineteenth-century scientists, who mainly commented on menageries' descriptions of animals, also had their own ideas about what "the right" information consisted of. Most likely the information provided in menageries fluctuated on a scale from (scientifically) correct to faulty or even fantasy.

Beyond this live spectacle, menageries provided written materials that helped expand the educational aspect of their shows. For a small fee, menageries provided pamphlets or little catalogues that could be used as souvenirs or as small encyclopedias for those who could not afford expensive books.[33] Ménagerie Pianet's booklet [**Fig. 3**], for example, comprised twelve pages with information on the animal trainer Pianet, menageries, the capture of exotic species, and short descriptions of seventeen different animals detailing their appearance, traits, habits, and natural habitat.[34] This practice was already in use in the late eighteenth and early nineteenth centuries and was also found in zoological gardens, though it is unclear whether and how frequently people engaged with such guide books.[35] Where showpeople obtained their

27 Cowie, *Empathy*, 104–6.
28 Bidel, *Les mémoires*, 206.
29 *Le Progrès du Nord*, October 31, 1880; *La Meuse*, October 25, 1880.
30 Cowie, *Empathy*, 101–25.
31 Grande ménagerie Bidel [Programme]; Grand Etablissement.
32 Rieke-Müller and Dittrich, *Unterwegs*, 89–92, 119.
33 Ibid., 118–19, 133.
34 *Description zoologique*.
35 Cowie, *Empathy*, 106–16; Rieke-Müller and Dittrich, *Unterwegs*, 92–96.

Figure 3. Front cover of Ménagerie Pianet's zoological description [1901]. Source: OD2415, Musée des civilisations de l'Europe et de la Méditerranée (Mucem).

information is difficult to say. It was likely a mix of information obtained from animal traders, zoological works, and their own day-to-day experiences.[36]

Menagerie owners' contribution to education was also recognized in various newspapers, which regularly portrayed traveling zoos as instructive venues, offering an opportunity to learn about exotic animals.[37] Some believed that observing live animals had a stronger and more lasting impact than the static displays found in natural history museums. Menageries' collections could be quite extensive and special. Animals such as giraffes, elephants, and gorillas were only introduced sporadically throughout the nineteenth and twentieth centuries, as these species were difficult to keep alive.[38] Yet various important menagerie entrepreneurs had them in their collections: Veuve Justin Pezon possessed a gorilla, François Bidel a giraffe, Ménagerie Pezon a North African elephant, and Pianet an elephant as well.[39]

The public perception of menageries as educational venues was not always consistent from place to place or across time. The abovementioned large number of pupils visiting Ménagerie Bidel in 1880 suggests that school boards and municipalities had no moral objections to such shows, nor perceived them as indecent. Views and opinions could shift quickly, however: by the 1890s, Bidel's attraction was considered immoral and lacking added value. Even while offering free access to local schools, Bidel was prohibited from performing in Liège, as the mayor found menageries incited "unhealthy" and "demoralizing" behavior, attracting people due to the morbid potential of witnessing an accident.[40] In Antwerp, animal trainers were similarly banned from conducting public shows within the cages. Yet in Geneva, children continued to visit menageries during school excursions. Objections were thus often of a local and/or temporary nature.

Showpeople's itinerant lifestyle and practical knowledge of handling and training exotic animals enabled them to act as facilitators of educational knowledge. This mediation was not only motivated by their goodwill; it was also driven by economic interests, underscoring their business acumen, as it promoted their attraction and expanded their audience base.[41] Creating and maintaining accessibility depended, however, on the cooperation of several people.[42] Access to "edutainment"—to use a modern word—about the natural world depended on the goodwill of affluent menagerie owners as well as city

36 Rieke-Müller and Dittrich, *Unterwegs*, 89–92, 119.
37 For example: *Progrès du Nord*, December 2, 1878; *La Meuse*, October 13, 1880; *La Tribune de Genève*, December 17, 1893; *Gazette de Charleroi*, August 17, 1901.
38 Rieke-Müller and Dittrich, *Unterwegs*, 45–46.
39 Wynants et al., "Science at the Fair."
40 *La Meuse*, October 12, 1897.
41 Cowie, "Elephants," 108–11.
42 Östling et al., "Revisiting Agency," 12.

administrators and local government, who determined whether funfair attractions were morally acceptable and educationally valuable, leading to heated debates within local politics and the press.

Facilitating Scientific Investigation

The public's interest in nature correlated with changes in the natural sciences. Driven by new theories, instruments, and research methods, separate fields of study were created for zoology, biology, bacteriology, and others.[43] As these disciplines expanded, the rise of zoos and natural history museums followed suit across Europe. Current literature recognizes them as key sites for scientific development, yet does not always consider the broader processes of animal acquisition and their study, which extended beyond these confines.[44] In fact, menagerie entrepreneurs facilitated a wide spectrum of investigations on living and deceased animals across multiple scientific disciplines, including zoology, parasitology, veterinary science, and animal psychology within zoos, laboratories, universities, scientific societies, veterinary schools, and museums [**Fig. 4**].

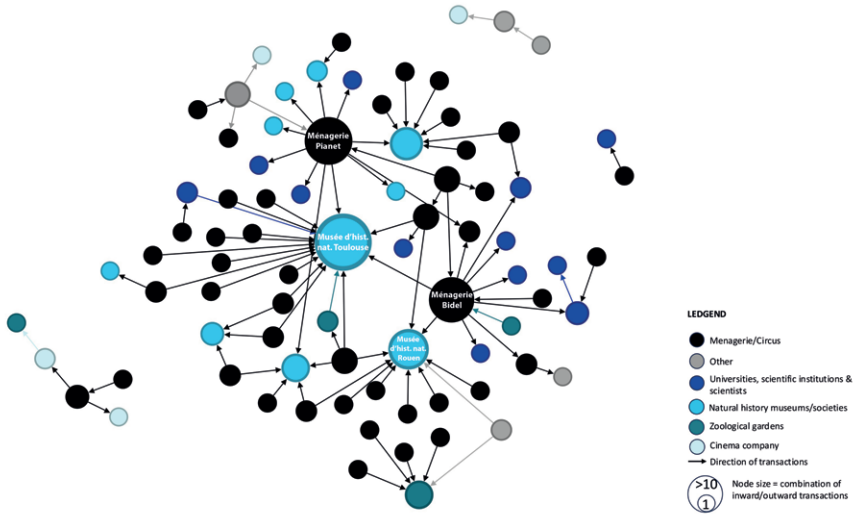

Figure 4. A network of non-exhaustive transactions (donations, sales, information exchange) between primarily menageries and scientific/academic institutions in the late nineteenth and early twentieth centuries. Author's compilation. Source: Wynants et al., "Science at the Fair."

43 Coleman, *Biology*, 1–15.

44 For example: Hochadel, "Science at the Zoo"; Hochadel, "Global Player"; Cowie, "A Tale"; Larsson, "Flesh and Feather"; Pouillard, "Animal Feeding"; Madruga, "Authentic Provenance"; Cowie, "Exhibiting Animals"; Percheron, "Animaux à Rouen"; Hochadel, "Watching Exotic Animals"; Mehos, *Artis*.

Macroscopic Research

Menageries and zoos acted as animal dealers, frequently exchanging, selling, or donating animals to other institutions. *Dompteur* Adrien Pezon, for instance, supplied exotic animals to the Jardin Zoologique d'Acclimatation du Bois de Boulogne in Paris, while the Antwerp Zoo, being a global hub, hosted annual sales that attracted the attention of zoo directors, menagerie owners, and animal traders.[45] These sales were advertised systematically in journals for itinerant showpeople, such as *La Comète Belge* and *Le Voyageur Forain*, illustrating the communication lines that were forged between showpeople and sedentary institutions.[46] From the second half of the nineteenth century, animal exchanges became more frequent between different social groups that had not interacted before. In addition, uncertainty often surrounded the quality of specimens and their value. Thus, building trust between different parties was crucial.[47] These annual sales likely not only functioned as a place to buy animals but also as a venue for people active in the same buisness to set up exchanges with each other.

The need for menageries to regularly buy new animals was driven by high mortality rates due to suboptimal housing, food, and hygiene conditions.[48] As a result, menageries often donated or sold deceased animals to scientific institutions across Europe, where they were dissected and examined to learn about human and animal anatomy and pathology.[49] Bidel, for instance, delivered a lion and a polar bear to the Université de Liège in Belgium, but also delivered animals to Louis Blanc, a lecturer of anatomy and zoology at the École Vétérinaire in Lyon, France. Pezon, too, offered deceased animals to scientists, such as Dr. Edmond Alix at the Catholic University of Paris.[50]

Additionally, menageries contributed to the enrichment of natural history museums, as substantial numbers of their exotic animals were transported to these institutions. Existing research assumes that museums obtained their collections from overseas through collaborations with animal dealers, explorers, colonial diplomats, or other museums/zoos.[51] However, menageries and circus owners also helped enrich museums' collections and facilitated further scientific study, cataloguing, and enhancing public engagement, as exemplified by the Asian elephant Miss Fanny. She passed away unexpectedly at Ménagerie Pianet in 1892 and was acquired by the Musée d'histoire naturelle de Bordeaux

45 De Bont, "Globalising Animals," 12; Loisel, *Histoire des ménageries*, 290–91, 331; *La Comète Belge*, December 1, 1913; *La Meuse*, August 28, 1897.

46 *L'Industriel forain*, April 13–20, 1901; ibid., March 24–31, 1906; Comète Belge, April 1, 1906; ibid., March 15, 1910.

47 Coote et al., "Commerce," 320, 329–31; Ville, "Natural History Trade," 11.

48 Cowie, *Empathy*, 94–96.

49 Woods, "Doctors," 33–34.

50 *La Meuse*, October 1, 1897; "Extrait … 6 mai 1879," viii.

51 Madruga, "Authentic Provenance," 2–4, 7; Cowie, *Empathy*, 21, 38–39, 79–88; Ville, "Natural History Trade," 11.

Figure 5. Elephant Miss Fanny enters the natural history museum in Bordeaux, France. Source: Musée d'histoire naturelle de Bordeaux. © F. Deval – Ville de Bordeaux.

for 500 francs [**Fig. 5**]. The animal became the museum's mascot (visible in the museum's current logo) and today still occupies a central place in the museum's entrance hall.[52]

Such exchanges between menageries and museums were not isolated occurrences, but part of a long-standing tradition. Donating or selling menagerie animals to natural history museums was a widespread practice that spanned the early nineteenth century to at least the 1920s, and underscores the close and sustained relationships menagerie owners maintained with museums. This becomes particularly apparent through correspondence between menagerie owners and museums. Bidel, for instance, wrote to the conservator of the Musée d'histoire naturelle de Rouen: "I often have very important pieces that I would sell to you on good terms. I will let you know each time, as I want my home town to benefit from it."[53] Similarly, Madame Chevrier, co-director of Ménagerie Milanaise, made inquiries to the director of the natural history museum in Lille about their "magnificent" lions "because it is always prefer-

52 Andersen, "Exotische Dieren," 43.
53 Letter from Bidel to the director of the Muséum d'histoire naturelle Rouen, December 4, 1876.

able that we inform you first."[54] Such bonds could span several decades, as exemplified by the French Ménagerie Pianet, which donated around 70 exotic mammals, birds, and reptiles (lions, dingoes, elephants, hyenas, bears, leopards, kangaroos, cheetahs, swordfish, and pythons) to the Musée d'histoire naturelle de Toulouse over a span of 34 years (1866–1900).[55]

Apart from institutional relationships and collaborations, financial motivations also shaped exchanges between menageries and museums. While many, such as the Pianet family, generously donated a significant proportion of their animals, they were also frequently sold to maximize returns on their expensive investments. This was often accompanied by price negotiations. In a letter to the museum director in Bordeaux, the showman P. Mollet-Schneider, owner of an aquarium, wrote:

> "It [an orang-utang] has had many enthusiasts who have asked for it after death. Mainly the zoological professor of the University of Rome, mr de Sanctis, who 2 years ago wrote me that he would take it for a thousand francs, if it died. I notified all these gentlemen, as I notified a large number of professors in France, Italy and Germany who knew the subject alive. That's why, sir, I asked you what you would offer, because it's a great loss for me, and naturally the highest bidder will get it."[56]

Prices for these animals fluctuated considerably, ranging from a mere 6 francs for the fetus of a seal from Ménagerie Roussel, over 80 francs for an ostrich from Ménagerie Pezon, 200 francs for a Senegalese lioness from Ménagerie Camillius, to 1,000 francs for a giraffe from Ménagerie Bidel.[57] Museums were willing to pay considerable sums to acquire pristine and valuable specimens for their collections.

Beyond monetary value, however, showpeople's involvement also extended to the scientific and technical aspects of preservation. Though showpeople's motivations to establish relations with museums were not purely driven by science, they did recognize the animals' scientific value. Correctly preserving animals was not a straightforward process, requiring proper materials (e.g., alum, arsenic, alcohol, cotton) and good skills, as mishandling could render specimens damaged or useless.[58] Menagerie owners established relations with taxidermists and preparators, as demonstrated by Bidel, who in a sales pitch to the director of the Natural History Museum in Rouen, praised his two-meter crocodile that "was anatomized in Paris by one of the best naturalists."[59] In addition, certain fairground entrepreneurs possessed the practical know-how

54 Letter from Chevrier to the director of the Musée d'histoire naturel de Lille, May 24, 1870.

55 Musée d'histoire naturelle de Toulouse Collection database (MHNT).

56 Letter from P. Mollet-Schneider to the director of the Musée d'histoire naturelle de Bordeaux, February 20, 1882.

57 Musée d'histoire naturelle de Genève collection database; MHNT collection database.

58 Coote et al., "Commerce," 332–33.

59 Letter from Bidel to the director of the Muséum d'histoire naturelle Rouen, December 4, 1876.

to preserve deceased animals. According to the French journal *L'Étincelle*, Jules Pianet was a "bacteriologist" and a "distinguished naturalist."[60] The showman P. Mollet-Schneider also detailed in a letter to the Musée d'histoire naturelle de Bordeaux the procedure used on a deceased orang-utang: placing the heart and intestines in an alcohol solution, filling its belly with alcohol and cotton, and applying a water and alcohol solution—given by a professor at the University of Florence—to its fur.[61] This detailed description likely assured the museum director of the specimen's proper preservation and value.

Natural History Societies

Apart from these practical contributions, showpeople also engaged with scientific institutions and communities, further attesting to their interest in science. For instance, Jean-Baptiste Pezon was a member of the Société zoologique de France between at least 1878 and 1882.[62] One of this society's founding members was doctor Edmond Alix, to whom Pezon also delivered animals.[63] Although Pezon did not contribute any articles to its *Bulletin*, he likely received it as part of his membership. The creation of connections between menagerie owners and scientists further highlights the collaborative nature of the acquisition of scientific knowledge. The Pianet family also exemplifies this connection: Sébastien-Pierre Pianet,[64] a family member of Emile and Jules Pianet, joined the Société d'histoire naturelle de Toulouse in 1873, and the Pianet brothers followed suit in 1879.[65] This was no coincidence given the strong bond the Pianet family had with the city of Toulouse in general and the museum specifically through their donations.

In addition to forming connections, some menagerie owners also took on an active role in generating scientific knowledge. While funfair entrepreneurs often facilitated access to knowledge, they also created it. Based on their own experiences, the Pianet family contributed insights about the kangaroo, Tasmanian devil, and several exotic cats to the Société d'histoire naturelle de Toulouse.[66] In one of these contributions Emile Pianet wrote: "The fact that the big cat species [...] reproduce in captivity has been reported, but many interesting features have gone unnoticed. Not only have captive animals reproduced, but the new generation has also retained its fertility. The latter

60 I have not found any further indications of this yet, however. *L'Étincelle*, February 10, 1894.

61 Letter from P. Mollet-Schneider to the director of the Musée d'histoire naturelle de Bordeaux, February 20, 1882.

62 "Liste des membres" (1878), xiii; "Liste des membres" (1882), xiii.

63 "Extrait ... 4 mai 1877," 309.

64 Sources are unclear about the familial relation with Emile and Jules Pianet. He could be their brother, nephew, uncle, or another relative. See: Letter from Gaston Astre to G. Soury, July 4, 1955; "État des membres" (1873–1874), 10.

65 "État des membres" (1880), 9.

66 "Séance du 21 janvier," 145.

fact was demonstrated in our menagerie."[67] He provided information on the gestation, maternal behavior, and cub rearing, shedding light on both successes and failures in raising them, as some initial litters died due to early separation from their mother or incorrect feeding practices. There were numerous open questions regarding exotic animals, leaving menagerie owners, animal keepers, and scientists alike in search for answers.[68] In this context, menagerie owners were one of several people who could contribute to answering questions and expanding the body of knowledge about exotic animals in certain communities.

Psychological Research

An area where menagerie owners' knowledge of exotic animals' behavior became useful was in the emerging field of animal psychology, which questioned animals' psychological functions and learning and reasoning capabilities.[69] An illustrative case is that of the earlier mentioned Italian professor of psychiatry Sante de Sanctis, who researched, among other topics, people's and animals' capacity to dream. For the wild animals he researched in the famous menagerie of Nouma-Hawa, he questioned the animals' keepers, who provided him with valuable information: most of the animals slept all night; some, such as the lion, moved their torso, limbs, and eyes while sleeping; and many animals had interrupted sleep when there were thunderstorms, or they were young animals that were not yet accustomed to the public.[70]

Another example is the French animal psychologist Pierre Hachet-Souplet, founder and director of the Institut de psychologie zoologique, who was an adept of the so-called "taming method" (*dressage*) to educate animals and children.[71] His reasoning was the result of various observations and experiments with (exotic) animals for which he collaborated, among others, with menagerie owners. In Bidel's menagerie, for instance, he observed that a mandrill skin made the lions and tigers behave as if they were scared of it.[72] Aside from menagerie visits, Hachet-Souplet also hosted menagerie and zoo animals in his "manège-laboratoire," which he recruited through advertisements. One of his collaborators was Emile Pianet, with whom Hachet-Souplet also corresponded, discussing topics ranging from infanticide in exotic animals to the underlying reasons for sudden changes in animals' behavior and mood.[73] Hachet-Souplet's experimental methods captivated academically trained psychologists, though he would eventually be ostracized by the scientific commu-

67 Pianet, "Note sur la reproduction," 134–38.
68 Hochadel, "Science at the Zoo," 577.
69 Thomas, "Noisy Machines," 441–42; Chapuis, "Débats."
70 Sanctis, *I sogni*, 55–56; Sanctis, *Die Träume*, 30–31.
71 Chapuis, "Débats"; Thomas, "Noisy Machines," 441; Hachet-Souplet, *De l'animal à l'enfant*.
72 Hachet-Souplet, *De l'animal à l'enfant*, 39.
73 *L'Express du Midi*, September 18, 1909; *La Liberté*, August 26, 1931; Hachet-Souplet, *La genèse*, 176–77.

nity.[74] His musings and discoveries also found a readership with the general public. Moreover, it is likely that menagerie owners themselves also read and engaged with his and other writings in order to understand their animals better. The publication of his books was, for example, announced in journals such as *Le belluaire & le cirque*. This journal, created in 1906, covered zoology, ethnography, and circus-related subjects, targeting anyone who was fascinated by animals from an artistic or scientific perspective.[75] Between 1907 and at least 1914 it was published as a supplement of *La Comète Belge*, a journal specifically intended for itinerant showpeople.[76] Not only did scientists benefit from access to itinerant menageries, but menagerie owners themselves could gain valuable insights as well. This allowed the circulation of knowledge to come full circle.

Microscopic Research

Facilitating access to scientists also resulted in research on a microscopic level. In the 1890s, Louis Guinard, the head of the physiology department at the faculty of medicine in Lyon, researched the toxicity of domestic and exotic animals' urine. The latter were sourced from Ménagerie Pianet and included polar bears, lions and tigers, with which he could expand his research. The exchange between Pianet and Guinard was a fruitful and agreeable one, as he explicitly thanked Pianet in his article for allowing him to collect these samples.[77] While a seemingly small interaction in the grand realm of science, this collaboration clearly held meaning and value for this particular scientist's research.

Another area of interest was animal parasitology and its potential transmission to humans. Scientists such as the veterinarians O. Delafond, Jean Pierre Mégnin, and Professor Louis Georges Neumann of the veterinary college in Toulouse, and Doctor H. Bourguignon pursued investigations in this field. Several of them made observations at itinerant menageries throughout their careers. Delafond and Bourguignon, for example, conducted research at Circus Borelli in the 1850s when both staff and animals suffered from scabies. Using mobile microscopes, they examined people and collected samples from the sick animals, aided by the animals' keepers, for further laboratory study.[78] Neumann, who possessed a large collection of parasites and would make important contributions to the field, also acquired a specimen of lion mites from Ménagerie Pianet in 1892 [**Fig. 6**]. Neumann's preparation traveled on to the mammalogist Édouard Louis Trouessart, who worked for the natural

74 Chapuis, "Débats."
75 *Le Belluaire*, June 1906, 3.
76 For example: '*Le belluaire*', *La Comète Belge*, July 1, 1907, 27; ibid., April 1, 1910; ibid., April 15, 1914, 25.
77 Guinard, "Urines," 493–99.
78 Delafond and Bourguignon, *La psore*, 229–41.

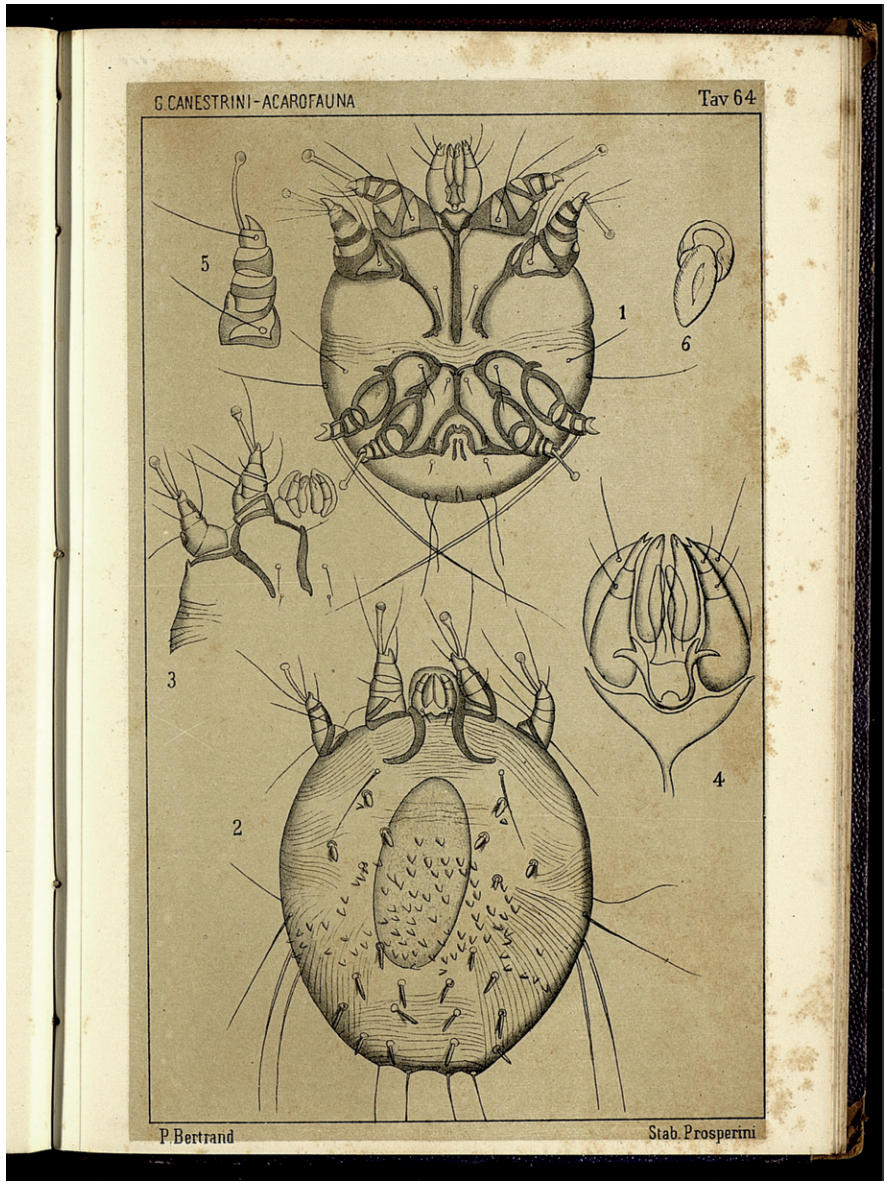

Figure 6. Depiction of *sarcoptes leonis* or lion mite. Source: Canestrini, *Prospetto*, [131]. https://hdl.handle.net/2027/uc1.b3844347. Courtesy of HathiTrust.

history museum in Angers and the Musée National d'histoire Naturelle de Paris, and would contribute crucial publications to zoology.[79] The sample was in turn sent to the Italian biologist Giovanni Canestrini.[80]

Menagerie owners allowing observations and sample collecting helped nurture individual and collaborative scientific research endeavors, influencing the day-to-day research activities of several scientists. These observations were also disseminated via reviews and bibliographies. In 1882, for example, three scientists acting on behalf of the anthropological laboratory of the *école des haute études* visited an orang-utang and a chimpanzee in Ménagerie Bidel and published an article on their findings.[81] This article was subsequently paraphrased, reviewed, or referenced in various scientific publications in French, English, and German.[82] Notably, some of these books even extend into the (late) twentieth century.[83]

The fate of exotic animals was determined by a complex interplay of factors, such as scientific value, their state of preservation, price negotiations, personal preferences, and the extent of menagerie owners' social and professional networks.

Mediating Artistry

Throughout the nineteenth century, exotic animals were appropriated as symbols of colonialism, power, civic pride, luxury, and entertainment, and inspired depictions in paintings, engravings, sculptures, photographs, and film.[84] Below I discuss itinerant menagerie owners' facilitating role within the fine arts, photography, and cinema.

The Fine Arts

Realistic portrayals of animals became a specialized genre in the nineteenth century, with French artists being known as *les animaliers*.[85] Their artworks were sold to wealthy customers or shown at Parisian salons and (inter)national exhibitions. To acquire the knowledge and skills to paint exotic animals, artists relied on several resources.

One important resource for artists to refine their skills were natural history museums, which allowed a close examination of the stuffed animals, though

79 Denys et al., "Trouessart," 355–64.
80 Canestrini, *Prospetto* 6:744.
81 Deniker, "Sur les singes," 301–4.
82 For example: "Travaux académiques," 427; "Séance du 2 novembre," 385; "Zoologie. Literaturbericht," 133; Keith, "An Introduction," 261.
83 Rohles, *Chimpanzee*; Sonntag, *Morphology*; Ruch, *Primatologica*.
84 Grigson, *Menagerie*; Crane and Fletcher, "Indian Tiger," 369–72.
85 *La peinture animalière*, 9–11; Horswell, *Sculpture*; Donald, *Picturing Animals*.

they lacked the movement and expressions of living animals. Zoological gardens in major cities were another option and were often favored over museums. For those who did not have access to a museum or a zoo, a third option was relying on traveling menageries. The value of zoos for shaping artistic practices is well documented.[86] While the role of menageries has received far less attention, Rieke-Müller and Dittrich have pointed out that this practice was already present in menageries in eighteenth- and nineteenth-century Germany.[87] For other countries in Europe we see a similar practice of using menageries as a platform to shape artistic skills.[88] During the *fête du Lion de Beffort* in Paris in 1913, for instance, Menagerie Mac-Donald attracted the attention of various painters, sculptures, and photographers, eager to study the exotic animals in various poses.

The artists who made use of menageries were a heterogenous group, with different social and artistic profiles: from renowned painters such as Théodore Géricault and Eugène Delacroix to locally (and today less) known artists and artists-in-training.[89] Students from the École des arts industriels in Geneva, for example, used menageries to practice their drawing of exotic animals. The Frenchman Édouard Eveno also took his first steps as an animal painter at Ménagerie Bidel as a child, and would continue to draw exotic animals his whole life, creating several exhibitions [**Fig. 7**].[90]

Artists' access to menageries also benefited their owners, who commissioned them to create promotional material. For instance, the *graveurs* Léon and Alfred Choubrac designed posters for Bidel, Nouma-Hawa, and others.[91] Gustave Soury, an animal painter, also supplied many renowned circuses and menageries with posters and *décors*.[92] In doing so, they provided important services to menageries. In Soury's case, this synergy extended beyond artistic contributions and also included serving as a correspondent and informant for the fairground community.[93]

A fourth option for drawing animals was by using photographs as a model, the picture becoming an object of artistic knowledge in its own right. These images were often taken in front of the bars of the animal's cage, but the French photographer Auguste Petit aimed for more unique photos from inside the cages to enhance their esthetic, dramatic, and artistic purpose. While Petit had access to two zoological gardens in Paris, he turned to Emile Pianet for permission to enter the animals' cages. We can only speculate about his

86 Hochadel, "Watching Exotic Animals," 197; Artinger, *Tierbude*, 107; Voss, "Zoologische Gärten," 233.
87 Rieke-Müller and Dittrich, *Unterwegs*, 119–23.
88 For example: *L'Ami du Peuple*, October 19, 1889; *La Suisse libérale*, May 25, 1881; *Comète Belge*, November 15, 1913.
89 Hochadel, "Watching Exotic Animals," 197; *La Tribune de Genève*, January 8, 1899; *L'Ami du Peuple*, October 19, 1889; *Le National Suisse*, June 29, 1883.
90 *Rouen Gazette*, November 26, 1937.
91 Beraldi, *Les graveurs*, 15, 19.
92 *Comète Belge*, September 15, 1909, 5; Mucem, "Dessine-moi un lion."
93 Andersen, "Precious Tool."

Figure 7. Edouard Eveno painting animals at Ménagerie Camillius (1914). Source: Sou.4.111.1, Mucem. https://lescollections.mucem.org/objet?uri=http://data.mucem.org/c/3184527&term=Sou.4.111.1&object_pos=0&object_max=1. Mucem / Edouard Eveno.

reasons for doing so, but most likely the zoos did not want to grant him access. During the late nineteenth and early twentieth centuries, zoological gardens sometimes applied restrictions on who could take or publish pictures of their animals.[94] With Emile Pianet's assistance to keep the animals under control, Petit was able to take several pictures, demonstrating the cooperative role menagerie owners played in enabling such creative undertakings.[95]

Cinematography

It was not only in the fine arts that menagerie owners played a facilitating role. Alongside animal dealers and zoos, they functioned as resource facilitators in the film industry during the early twentieth century. Movie studios used exotic animals as props, main characters, or brand symbols.[96] The use of animals in films impacted not only the content that was shown—nature movies, scientific films about animals, comedies/melodramas involving circuses/menageries—and the message these conveyed, but also the various processes of filmmaking itself such as the use of special cameras, techniques to film animals in the wild,

94 Peel, *Zoological Gardens of Europe*, ix.
95 *Le Petit Journal*, August 30, 1883.
96 Burt, *Animals in Film*, 19.

and, in particular, knowledge about taming and training animals.[97] Itinerant showpeople collaborated with studios such as Maison Pathé Frères and Maison Gaumont, and the Italian Pasquali et Cie by selling, donating, or loaning their animals and equipment.[98] Making use of traveling menagerie animals was especially beneficial when the movie in question dealt with this particular theme. In 1913, the Italian company Savoia-Film, for example, hired one of Nouma-Hawa's caravans for 15 days to shoot a movie.[99]

While movie studios saved resources by using trained animals and experienced tamers, menagerie owners benefited by being able to dispose of untrainable animals (which studios sometimes killed on camera), had the opportunity to show their skills beyond the fairground, and could use these stunts as extra promotional material.[100] For instance, lion tamer Alfred Schneider and his large group of animals were used in various Italian movies in the early twentieth century, among others the famous *Quo Vadis* (1913), in which his lions figured [**Fig. 8**].[101] Schneider in turn would use his lions' presence in this movie in promotional material for his circus spectacles, referring on posters to his "100 quo vadis lions."[102]

Though the presence of the animal tamers was often requested to be able to control the animals as adequately as possible during filming, their practical knowledge and expertise also had their limits, as animals could become unpredictable when their environments changed. For example, a young lion from Ménagerie La Goulue was "completely bewildered, was unable to conceal either his emotion or his fears, and the cameraman, faced with his pitiful expression, was at a loss."[103] More serious accidents happened as well, such as in 1913, when the Italian actress Castamagna was attacked by a leopard. In the resulting commotion, Nouma-Hawa's and other animal tamers' commands had no effect on the animal, and the actress would later succumb to her injuries.[104]

97 Ibid., 88.
98 For example: *Comète Belge*, January 15, 1914; ibid., May 15, 1913; ibid., August 15, 1913; ibid., November 15, 1913; Burt, *Animals in Film*, 149.
99 *Le Courrier Cinématographique*, October 25, 1913.
100 Burt, *Animals in Film*, 131–48; *Comète Belge*, August 15, 1913.
101 *Comète Belge*, January 15, 1914; Bertellini, *Italian Silent Cinema*, 173; Winkler, "*Kapitän*."
102 Friedländer, "Die grösste Löwen-Schau."
103 *Comète Belge*, November 15, 1913.
104 *Le Courrier Cinématographique*, October 25, 1913.

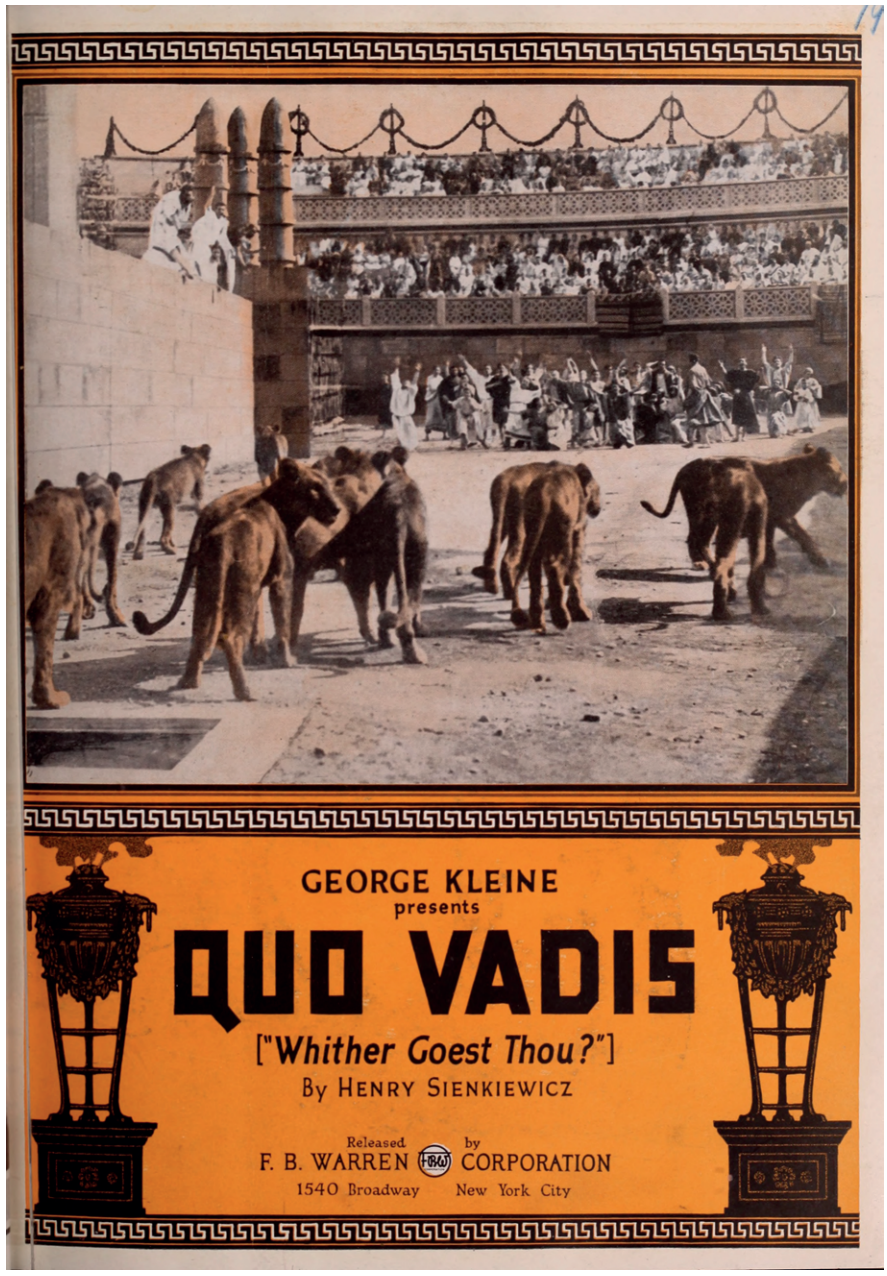

Figure 8. Schneider's lions in the film *Quo Vadis* (1913). Source: *The Exhibitors Herald: The Independent Film Trade Paper* 13, no. 1 (July 2, 1921), [723]. Courtesy of the Media History Digital Library.

Conclusion

In line with recent scholarship advocating a broader understanding of knowledge practices and actors, my article illustrates how focusing on actors in facilitating roles, and the multifaceted nature of knowledge actors and arenas, can broaden and deepen our understanding of knowledge circulation processes. This framing helped reconsider where and by whom natural history knowledge was produced, shaped, and circulated. It demonstrates how a group of marginalized actors contributed to scientific, educational, and artistic exchanges in Western Europe. As Emile Pianet wrote in *L'Industriel Forain* in 1895: "And thus we find the means to meet the necessities of life by doing zoology and science in our own way [...]."[105] Itinerant showpeople were far from mere entertainers with the know-how and skills to entice or entrepreneurs with the business acumen to build large and affluent attractions. They also functioned as educators by circulating the knowledge that they acquired through animal traders, books, and daily interactions with the animals. In a similar vein they acted as experts: passing on observations about their animals to natural history societies, as well as being explicitly sought out by scientists to discuss the animals' physical and mental behavior. The activities showpeople engaged in were not only driven by economic motives; they were well aware of the scientific value of their animals. Several menagerie owners also demonstrated scientific interests by joining natural history societies or acquiring basic knowledge of how to properly preserve deceased animals.

Emerging from their roles as entertainer, entrepreneur, educator, or expert is that of a facilitator. They bridged gaps between various social groups, institutions, and geographical locations. In doing so, they created connections between other knowledge arenas and their actors. By shifting the focus from the mere creation of knowledge to also include its facilitation—an often overlooked aspect—I demonstrate that providing access to knowledge is equally integral to the process of creating and disseminating it. By offering access to their animals—through free entry, allowing photographers into the animals' cages, donating or selling specimens, and providing resources such as urine samples—showpeople enabled children and their families, painters, photographers, zoologists, parasitologists, veterinarians, and psychologists to learn, study, and observe exotic animals in order to acquire or expand their knowledge. This was in particular made possible by affluent menagerie owners who had the financial means, spatial capacity, and large and high-quality collections to do so.

This facilitating role of itinerant showpeople enabled menageries to function as multifaceted knowledge arenas: becoming an entertainment venue, school, artist's atelier, or laboratory depending on the people with whom menagerie owners interacted. Due to their itinerant nature, menageries

105 *L'Industriel Forain*, February 24–March 2, 1895.

facilitated the circulation of knowledge, though external socio-political factors, such as bans on performances by city officials, sometimes constrained them. While knowledge about the exotic animals' life, care, behavior, and anatomy has been predominantly linked to natural history museums and zoological gardens, menageries were an additional resource and building block, as illustrated by the long-standing connections that were formed between menageries and various museums. Animals were also transformed from living creatures for entertainment, education, and scientific research, into models for paintings or photographs, and specimens (skins, skeletons, urine, parasites) for anatomical and biological research. The animals were continuously molded into something else, with different knowledge purposes in mind.

By mapping the interactions of menagerie owners with a diverse range of people and institutions, this article nuances existing understandings of natural history. Knowledge was not only confined to museums or formal scientific institutions but emerged through everyday encounters, such as those at the fairground. Lastly, it challenges prevailing narratives by highlighting the agency of socially marginalized groups—such as showpeople—not merely as passive conveyors of information but as active facilitators and co-creators of knowledge that crossed disciplinary and social boundaries.

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Bibliography

Archival Sources

Allard Pierson Museum Amsterdam

Letter from Gaston Astre to G. Soury, July 4, 1955, circuscollectie, collectie Letellier, dompteurs, folder Orfei–Podtchernikova.

Adolph Friedländer, Die grösste Löwen-Schau aller Zeiten (1926) [Poster], TEY0010001861. https://circusmuseum.nl/portfolio-item/die-grosste-lowen-schau-aller-zeiten/.

Archives Muncipales Rouen

Letter from Bidel to the director of the Muséum d'histoire naturelle Rouen, December 4, 1876, 4-R-93-PEN-1706-01.

Bibliothèque de Genève

L'exposition nationale Suisse [Poster], 1896. https://www.bge-geneve.ch/iconographie/oeuvre/rec-est-0398-f-225-04.

L'Étincelle, January 20, 1894.

———, February 10, 1894.

Bibliothèque Nationale de France (BnF) | Gallica

Al galliner: Journal artistique et théâtral, March 3, 1889, Médiathèque de Perpignan, Rpm 36. https://gallica.bnf.fr/ark:/12148/bd6t53755515c.

Belle ménagerie Lozérienne [Programme], 1862, Centre National des Arts du Cirque, PRO_FRA_0051. https://gallica.bnf.fr/ark:/12148/bpt6k6964157d.

Grande Ménagerie Européenne et Lozérienne [Programme], Centre National des Arts du Cirque, PRO_FRA_0056. https://gallica.bnf.fr/ark://12148/bpt6k69641619.

Journal d'Indres-et-Loire, August 11, 1897. https://gallica.bnf.fr/ark:/12148/bd6t51070862z.

Le Belluaire: Revue universelle des exhibitions zoologiques, ethnographiques et exercices de cirque, June 1906. https://gallica.bnf.fr/ark:/12148/bpt6k9534758q.

Le Petit Journal, August 30, 1883. https://gallica.bnf.fr/ark:/12148/bpt6k6080462.

Le Progrès du Nord, December 2, 1878. https://gallica.bnf.fr/ark:/12148/bpt6k66686159.

———, October 31, 1880. https://gallica.bnf.fr/ark:/12148/bpt6k66719000.

L'Industriel Forain, February 24–March 2, 1895, département Droit économie politique, JO-8942. https://gallica.bnf.fr/ark:/12148/bpt6k95466611r.

———, April 13–20, 1901, département Droit économie politique, JO-8942. https://gallica.bnf.fr/ark:/12148/bpt6k9556825v.

———, March 24–31, 1906, département Droit économie politique, JO-8942.
Ménagerie Veuve Pezon [Affiche/Programme], Centre National des Arts du Cirque, PRO_FRA_0059. https://gallica.bnf.fr/ark:/12148/bpt6k69641634.
Rouen Gazette, November 26, 1937, département Droit économie politique, JO-40288. https://gallica.bnf.fr/ark:/12148/bpt6k4521758g.
La Liberté, August 26, 1931. https://gallica.bnf.fr/ark:/12148/bpt6k41024305.
L'Express du Midi, September 18, 1909. https://gallica.bnf.fr/ark:/12148/bpt6k53688152.

E-newspaperarchives.ch

L'Ami du Peuple, October 19, 1889. https://www.e-newspaperarchives.ch/?a=d&d=AMI18891019-01.2.12.
La Suisse libérale, May 25, 1881. https://www.e-newspaperarchives.ch/?a=d&d=LSL18810525-01.2.9.
La Tribune de Genève, December 17, 1893. https://www.e-newspaperarchives.ch/?a=d&d=TDG18931217-04.2.7.
———, January 8, 1899, https://www.e-newspaperarchives.ch/?a=d&d=TDG18990108-04.2.12.
Le National Suisse, June 29, 1883. https://www.e-newspaperarchives.ch/?a=d&d=LNS18830629-01.2.2.

Internet Archive

Keith, Arthur, "An Introduction to the Study of Anthropoid Apes — II. The Chimpanzee," *Natural Science: A Monthly Review of Scientific Progress* 9, no. 56 (1896): 250–65. https://archive.org/details/sim_natural-science-a-monthly-review-of-scientific-progress_1896-10_9_56.
The Exhibitors Herald: The Independent Film Trade Paper 13, no. 1 (July 2, 1921). https://archive.org/details/exhibitorsherald13exhi/exhibitorsherald13exhi.
Le Courrier Cinématographique, October 25, 1913. https://archive.org/details/courrier-cinematographique-1913-43/mode/2up.

Musée des Civilisations de l'Europe et de la Méditerranée (Mucem) Marseille

Des*cription zoologique des animaux composant la grande ménagerie des Indes des Frères Pianet* [1901], OD2415.

Musée d'histoire naturelle de Genève

Internal collection database.

Musée d'histoire naturelle de Toulouse (MHNT)

Internal collection database.

Musée d'histoire naturelle de Lille

Letter from Chevrier to the director of the Musée d'histoire naturel de Lille, May 24, 1870.

Musée d'histoire naturelle de Bordeaux

Letter from P. Mollet-Schneider to the director of the Musée d'histoire naturelle de Bordeaux, February 20, 1882, SMS-COR-2-2-M.

Royal Library Belgium (KBR)

Gazette de Charleroi, August 17, 1901. https://uurl.kbr.be/1431438.
La Comète Belge, April 1, 1906. https://uurl.kbr.be/1920017.
———, July 1, 1907. https://uurl.kbr.be/1920105.
———, September 15, 1909. https://uurl.kbr.be/1920233.
———, March 15, 1910. https://uurl.kbr.be/1920269.
———, April 1, 1910. https://uurl.kbr.be/1920271.
———, May 15, 1913. .
———, August 15, 1913. https://uurl.kbr.be/1920499.
———, November 15, 1913. https://uurl.kbr.be/1920513.
———, December 1, 1913. https://uurl.kbr.be/1920517.
———, January 15, 1914. https://uurl.kbr.be/1920523.
———, April 15, 1914. https://uurl.kbr.be/1920537.
La Meuse, October 2, 1880. https://uurl.kbr.be/1192406.
———, October 13, 1880. https://uurl.kbr.be/1192415.
———, October 25, 1880. https://uurl.kbr.be/1192425.
———, August 28, 1897. https://uurl.kbr.be/1204985.
———, October 1, 1897. https://uurl.kbr.be/1205014.
———, October 12, 1897. https://uurl.kbr.be/1205023.

University Library Ghent

Grande ménagerie Bidel [Programme], 1906, Foire de Gand, BIB.VLBL.HFI.F.033.05. https://adore.ugent.be/IIIF/images/archive.ugent.be%3A5A5B916C-C207-11EA-967A-CF20AA36FAF6%3ADS.157/full/full/0/native.jpg.
Grand Etablissement zoologique du dompteur C. Redenbach [Programme], 1903, Foire 1898–1906: 1903, BIB.VLBL.HFI.PKF.003.16. https://adore.ugent.be/IIIF/images/archive.ugent.be%3A3BC1F1BC-C787-11EA-8D0E-9B58AA36FAF6%3ADS.5/full/full/0/native.jpg.

Other Sources and Literature

Andersen, Eva. "Exotische Dieren in de schijnwerpers." *Faro: Tijdschrift over Cultureel Erfgoed* 16, no. 1 (2023): 40–45. https://issuu.com/faronet/docs/faro_2023_16_1.

———. "'The Precious Tool and Often Also the Weapon That We Know It to Be': Itinerant Showpeople's Periodicals as Socio-Economic Platforms (1880s–1920s)." *Journal of European Periodical Studies* 9, no. 2, 2025: 1–29. https://doi.org/10.21825/jeps.90005.

———. "Unfairness at the Funfair: The French Syndicate for Travelling Showpeople in the Long Nineteenth Century." *Cultural and Social History* 21, no. 1 (2023): 65–86. https://doi.org/10.1080/14780038.2023.2271197.

Artinger, Kai. *Von der Tierbude zum Turm der blauen Pferde: Die künstlerische Wahrnehmung der wilden Tiere im Zeitalter der zoologischen Gärten*. Reimer, 1995.

Bach, Maria. "Marginalized Knowledge Actors." In *Knowledge Actors: Revisiting Agency in the History of Knowledge*, edited by Johan Östling, David Larsson Heidenblad, and Anna Nilsson Hammar. Nordic Academic Press, 2023. https://lucris.lub.lu.se/ws/portalfiles/portal/152543329/Knowledge_Actors_OA.pdf.

Baratay, Éric, and Elisabeth Hardouin-Fugier. *Zoo: A History of Zoological Gardens in the West*. Reaktion Books, 2002.

Beraldi, Henri. *Les graveurs du XIXe siècle. Guide de l'amateur d'estampes modernes*. Vol. 5, *Cherrier – Dien*. Paris: L. Conquet, 1885. http://archive.org/details/lesgraveursdu19e05berauoft.

Bertellini, Giorgio. *Italian Silent Cinema: A Reader*. John Libbey Publishing, 2013.

Bidel, Jean Baptiste François. *Les mémoires d'un dompteur*. Paris: Librairie de l'art, 1888. http://archive.org/details/lesmmoiresdundoooforagoog.

Bruce, Gary. *Through the Lion Gate: A History of the Berlin Zoo*. Oxford University Press, 2017.

Burkhardt, Richard W. "A Man and His Menagerie," *Natural History* 110, no. 1 (2001): 62–69.

———. "The Voice of the Lion Keeper, or, the Multiple Meanings of the Animals of the Menagerie of the Muséum d'Histoire Naturelle." *Annales historiques de la Révolution française* 377, no. 3 (2014): 145–73. https://shs.cairn.info/journal-annales-historiques-de-la-revolution-francaise-2014-3-page-145?lang=en.

Burt, Jonathan. *Animals in Film*. Reaktion Books, 2002.

Canestrini, Giovanni. *Prospetto dell'Acarofauna italiana*. Vol. 6, *Famiglia dei Psoroptidi (Psoroptidae): Appendice ai Fitoptidi italiani*. Padua: Prosperini, 1894. https://hdl.handle.net/2027/uc1.b3844347.

Chapuis, Élisabeth. "Débats autour de la psychologie animale: La rencontre Pierre Hachet-Souplet – Édouard Claparède." *Revue d'histoire des sciences humaines*, no. 28 (2016): 73–91. https://doi.org/10.4000/rhsh.1451.

Coleman, William. *Biology in the Nineteenth Century: Problems of Form, Function and Transformation*. Cambridge University Press, 1977.

Coote, Anne, Alison Haynes, Jude Philp, and Simon Ville. "When Commerce, Science, and Leisure Collaborated: The Nineteenth-Century Global Trade Boom in Natural History Collections." *Journal of Global History* 12, no. 3 (2017): 319–39. https://doi.org/10.1017/S1740022817000171.

Cowie, Helen. "A Tale of Two Anteaters: Madrid 1776 and London 1853." *Centaurus* 64, no. 3 (2022): 591–614. https://doi.org/10.1484/J.CNT.5.132101.

———. "Elephants, Education and Entertainment: Travelling Menageries in Nineteenth-Century Britain." *Journal of the History of Collections* 25, no. 1 (2013): 103–17. https://doi.org/10.1093/jhc/fhr037.

———. *Exhibiting Animals in Nineteenth-Century Britain: Empathy, Education, Entertainment*. Palgrave Macmillan, 2014.

———. "Exhibiting Animals: Zoos, Menageries and Circuses." In *The Routledge Companion to Animal-Human History*. Routledge, 2018.

Crane, Ralph, and Lisa Fletcher. "Picturing the Indian Tiger: Imperial Iconography in the Nineteenth Century." *Victorian Literature and Culture* 42, no. 3 (2014): 369–86. https://doi.org/10.1017/S1060150314000047.

De Bont, Raf. "Globalising Animals: Histories for the Anthropocene." *Journal for the History of Environment and Society* 7 (2022): 11–34. https://doi.org/10.1484/J.JHES.5.134040.

Delafond, Onèsime, and Honoré Bourguignon. *Traité pratique d'entomologie et de pathologie comparées de la psore: ou gale de l'homme et des animaux domestiques*. Paris: Imprimerie impériale, 1862. https://gallica.bnf.fr/ark:/12148/bpt6k877283r.

Deniker, J., "Sur les singes anthropoides de la ménagerie." *Bulletin de la Société zoologique de France* 7, no. 1 (1882): 301–4. https://gallica.bnf.fr/ark:/12148/bpt6k55980324.

Denys, Christiane, Cécile Callou, and Benoît Mellier. "The Contribution of Edouard-Louis Trouessart to Mammalogy." *Mammalia* 76, no. 4 (2012): 355–64. https://doi.org/10.1515/mammalia-2011-0131.

Donald, Diana. *Picturing Animals in Britain, 1750–1850*. Yale University Press, 2007.

Dupré, Sven, and Geert Somsen. "The History of Knowledge and the Future of Knowledge Societies." *Berichte zur Wissenschaftsgeschichte* 42, no. 2–3 (2019): 186–99. https://doi.org/10.1002/bewi.201900006.

"État des membres de la société d'histoire naturelle de Toulouse." *Bulletin de la Société d'histoire naturelle de Toulouse* 8 (1873–1874): 5–10. https://gallica.bnf.fr/ark:/12148/bpt6k6555448j.

"Extrait des procès-verbaux de la société zoologique de France. Séance du 6 mai 1879." *Bulletin de la Société zoologique de France* (1879): viii–ix. https://gallica.bnf.fr/ark:/12148/bpt6k61586222.

"État des membres de la société d'histoire naturelle de Toulouse." *Bulletin de la Société d'histoire naturelle de Toulouse* 14 (1880): 5–11. https://gallica.bnf.fr/ark:/12148/bpt6k65549642.

"Extrait des procès-verbaux de la société zoologique de France. Séance du 4 mai 1877." *Bulletin de la Société zoologique de France* (1877): 309. https://gallica.bnf.fr/ark:/12148/bpt6k5457560h.

Flint, Richard W. "American Showmen and European Dealers: Commerce in Wild Animals in Nineteenth-Century America." In *New Worlds, New Animals: From Menagerie to Zoological Park in the Nineteenth Century*, edited by R. J. Hoage and William A. Deiss. Johns Hopkins University Press, 1996.

Grigson, Caroline. *Menagerie: The History of Exotic Animals in England*. Oxford University Press, 2018.

Guinard, Louis. "Note sur la toxicité des urines normales de l'homme et des mammifères domestiques." *Comptes rendus hebdomadaires des séances et mémoires de la Société de biologie* 5 (1893): 493–99. http://archive.org/details/comptesrendusdes1893soci.

Hachet-Souplet, Pierre. *De l'animal à l'enfant*. Félix Alcan, 1913. https://gallica.bnf.fr/ark:/12148/bpt6k54896461.

———. *La genèse des instincts: Étude expérimentale*. E. Flammarion, 1912. http://archive.org/details/lagensedesinstoohach.

Hoage, R. J., and William A. Deiss. *New Worlds, New Animals: From Menagerie to Zoological Park in the Nineteenth Century*. Johns Hopkins University Press, 1996.

Hochadel, Oliver. "A Global Player from the South: The Jardín Zoológico de Buenos Aires and the Transnational Network of Zoos in the Early Twentieth Century." *História, Ciências, Saúde-Manguinhos* 29, no. 3 (2022): 789–812. https://doi.org/10.1590/S0104-59702022000300012.

———. "Science at the Zoo: An Introduction." *Centaurus* 64, no. 3 (2022): 561–90. https://doi.org/10.1484/J.CNT.5.132186.

———. "Science in the 19th-Century Zoo." *Endeavour* 29, no. 1 (2005): 38–42. https://doi.org/10.1016/j.endeavour.2004.11.002.

———. "Watching Exotic Animals Next Door: 'Scientific' Observations at the Zoo (ca. 1870–1910)." *Science in Context* 24, no. 2 (2011): 183–214. https://doi.org/10.1017/S0269889711000068.

Horswell, Edward. *Sculpture of Les Animaliers 1900–1950*. Scala Arts & Heritage Publishers, 2019.

Kohlstedt, Sally Gregory. "Reflections on Zoo History." In *New Worlds, New Animals*, edited by Hoage and Deiss.

Larsson, Eleanor. "'Here They Are in Flesh and Feather': Walter Rothschild's 'Private Zoo' and the Preparation and Taxonomic Study of Cassowaries." *Centaurus* 64, no. 3 (2022): 659–82. https://doi.org/10.1484/J.CNT.5.132104.

"Liste des membres de la société." *Bulletin de la Société zoologique de France* 3 (1878): vii–xv. https://gallica.bnf.fr/ark:/12148/bpt6k5445464x.

"Liste des membres de la société." *Bulletin de la Société zoologique de France* 7 (1882): vii–xiv. https://gallica.bnf.fr/ark:/12148/bpt6k55980324.

Loisel, Gustave. *Histoire des ménageries de l'Antiquité à nos jours*. Vol. 3, *Epoque contemporaine (XIXe et XXe siècles)*. Octave Doin et fils, 1912. https://gallica.bnf.fr/ark:/12148/bd6t5337465f.

Madruga, Catarina. "'Authentic Provenance': Locality and Colonial Collecting for the Lisbon Zoological Museum, 1860s–1880s." *Journal for the History of Knowledge* 3 (2022). https://doi.org/10.55283/jhk.11951.

Mehos, Donna C. *Science and Culture for Members Only: The Amsterdam Zoo Artis in the Nineteenth Century*. Amsterdam University Press, 2006.

Mucem. "Dessine-moi un lion." https://mucem.org/collection_focus/dessine-moi-un-lion/. Accessed August 27, 2025.

Östling, Johan. "Circulation, Arenas, and the Quest for Public Knowledge: Historiographical Currents and Analytical Frameworks." *History and Theory* 59, no. 4 (2020): 111–26. https://doi.org/10.1111/hith.12184.

Östling, Johan, David Larsson Heidenblad, and Anna Nilsson Hammar, eds. *Forms of Knowledge: Developing the History of Knowledge*. Nordic Academic Press, 2020.

———. "Introduction. Revisiting Agency in the History of Knowledge." In *Knowledge Actors*, edited by Östling et al.

———, eds. *Knowledge Actors: Revisiting Agency in the History of Knowledge*. Nordic Academic Press, 2023.

Östling, Johan, Erling Sandmo, David Larsson Heidenblad, Anna Nilsson Hammar, and Kari H. Nordberg, eds. *Circulation of Knowledge: Explorations in the History of Knowledge*. Nordic Academic Press, 2018.

Peel, Charles Victor Alexander. T*he Zoological Gardens of Europe: Their History and Chief Features*. F. E. Robinson & co., 1903. http://archive.org/details/zoologicalgardenoopeel.

Pelletier, Loreline. "La peinture animalière en France au XVIIIe siècle (1699–1793): Quand l'animal devient sujet." PhD diss., Université de Lille, 2020.

Percheron, Bénédicte. "Les hommes face aux animaux à Rouen au XIXe siècle. Représentations, études zoologiques et perceptions." *Histoire urbaine* 47, no. 3 (2016): 87–105. https://doi.org/10.3917/rhu.047.0087.

Pianet, Emile. "Note sur la reproduction en captivité de quelques félins: Lion, tigre, panthère." *Bulletin de la Société d'histoire naturelle de Toulouse* 12 (1878): 134–38. https://gallica.bnf.fr/ark:/12148/bpt6k65549679.

Podgorny, Irina. "Travelling Museums and Itinerant Collections in Nineteenth-Century Latin America." *Museum History Journal* 6, no. 2 (2013): 127–46. https://doi.org/10.1179/1936981613Z.00000000014.

Pouillard, Violette. "Animal Feeding, Animal Experiments, and the Zoo as a Laboratory: Paris Ménagerie and London Zoo, ca. 1793–1939: The Zoo as a Laboratory." *Centaurus* 64, no. 3 (2022): 705–28. https://doi.org/10.1484/J.CNT.5.132106.

Reinert, Wiebke. "Betwixt and Between: Making Makeshift Animals in Nineteenth-Century Zoological Gardens." In *Animal History in the Modern City: Exploring Liminality*, edited by Clemens Wischermann, Aline Steinbrecher, and Philip Howell. Bloomsbury Academic, 2018. https://doi.org/10.5040/9781350054066.0016.

Rieke-Müller, Annelore, and Lothar Dittrich. *Unterwegs mit wilden Tieren: Wandermenagerien zwischen Belehrung und Kommerz, 1750–1850*. Basilisken-Presse, 1999.

Rocha Gonçalves, Dulce da. "Science between the Fairground and the Academy: The Case of Dutch Science Popularizer L. K. Maju (1823–1886)." *Public Understanding of Science* 29, no. 8 (2020): 881–91. https://doi.org/10.1177/0963662520965093.

Rohles, Frederick H., ed. *The Chimpanzee: A Topical Bibliography*. 2nd ed. Kansas State University, 1972. http://archive.org/details/chimpanzeetopicaoooorohl.

Rothfels, Nigel. *Elephant Trails: A History of Animals and Cultures*. Johns Hopkins University Press, 2021.

Ruch, Theodore Cedric. *Bibliographia Primatologica: A Classified Bibliography of Primates Other than Man*. Vol. 1. Charles Thomas, 1941. http://archive.org/details/bibliographiaprioruch.

Sanctis, Sante de. *Die Träume: Medizinisch-psychologische Untersuchungen*. Carl Marhold, 1901. http://archive.org/details/dietrumemedizioosanc.

———. *I sogni: Studi psicologici e clinici di un alienista*. Turin: Fratelli Bocca, 1899. http://archive.org/details/BIUSante_53080.

Sarasin, Philipp. "More Than Just Another Specialty: On the Prospects for the History of Knowledge." *Journal for the History of Knowledge* 1 (2020): 1–5. https://doi.org/10.5334/jhk.25.

———. "Was ist Wissensgeschichte?" *Internationales Archiv für Sozialgeschichte der deutschen Literatur* 36, no. 1 (2011): 159–72. https://doi.org/10.1515/iasl.2011.010.

Sonntag, Charles F. *The Morphology and Evolution of the Apes and Man*. J. Bale, Sons, & Danielsson, 1924. http://archive.org/details/b29821228.

"Séance du 2 novembre 1882." *Bulletin de la Société des amis des sciences naturelles de Rouen* 18 (1882): 280–385. https://hdl.handle.net/2027/uc1.b3085991.

"Séance du 21 janvier 1874." *Bulletin de la Société d'histoire naturelle de Toulouse* 8 (1873–1874): 145–52. https://gallica.bnf.fr/ark:/12148/bpt6k6555448j.

Thétard, Henry. *Les dompteurs: ou la ménagerie des origines à nos jours*. Gallimard, 1928.

Thomas, Marion. "Are Animals Just Noisy Machines? Louis Boutan and the Co-Invention of Animal and Child Psychology in the French Third Republic." *Journal of the History of Biology* 38 (2005): 425–60. https://doi.org/10.1007/s10739-005-0555-y.

"Travaux académiques." *Gazette médicale de Paris* 53 (1882): 424–27. https://hdl.handle.net/2027/mdp.39015082132864.

Union syndical des Industriels Forains. *L'Indicateur Forain*. Nîmes: Imprimerie Gustave Gory, 1894. Private collection Pierre Taiffer.

Veltre, Thomas. "Menageries, Metaphors and Meanings." In *New Worlds*, edited by Hoage and Deiss.

Ville, Simon. "Researching the Natural History Trade of the Nineteenth Century." *Museum History Journal* 13, no. 1 (2020): 8–19. https://doi.org/10.1080/19369816.2020.1760047.

Voss, Julia. "Zoologische Gärten, Tiermaler und die Wissenschaft vom Tier im 19. Jahrhundert." In *Stätten biologischer Forschung / Places of Biological Research: Beiträge zur 12. Jahrestagung der DGGTB in Neapel 2003*, edited by Christiane Groeben, Michael Kaasch, and Joachim Kaasch. Verlag für Wissenschaft und Bildung, 2005.

Westberg, Johannes. "Multifaceted Knowledge Actors: Nineteenth-Century Teachers as Authors, Researchers, Administrators, and Politicians." In *Knowledge Actors*, edited by Östling et al.

Winkler, Dietmar, *"Kapitän" Alfred Schneider: Ein Sachse unter hundert Löwen. Eine dokumentarische Biografie*. Edition Schwarzdruck, 2014.

Woods, Abigail. "Doctors in the Zoo: Connecting Human and Animal Health in British Zoological Gardens, c. 1828–1890." In *Animals and the Shaping of Modern Medicine: One Health and Its Histories*, edited by Abigail Woods, Michael Bresalier, Angela Cassidy, and Rachel Mason Dentinger. Palgrave Macmillan, 2018. https://doi.org/10.1007/978-3-319-64337-3_2.

Wynants, Nele, Eva Andersen, Bart Moens, et al. "Science at the Fair: Research Data." Zenodo, May 26, 2025. https://zenodo.org/records/15518795.

Wynants, Nele. "The Travelling Lantern: The Courtois and Grandsart-Courtois Family Theatres as Transcultural Mediators at the Nineteenth-Century Fair." *Early Popular Visual Culture* 17, no. 3–4 (2019): 233–60. https://doi.org/10.1080/17460654.2019.1705649.

———. "Wetenschap op de kermis: De verspreiding van technologie, kennis en spektakel in Belgische provinciesteden tijdens het fin-de-siècle." *Volkskunde* 121, no. 1 (2020): 1–33. https://hdl.handle.net/10067/1689710151162165141.

"Zoologie: Literaturbericht in Beziehung zur Anthropologie mit Einschluss der Fossilen und recenten Landsäugethiere." *Archiv für Anthropologie, Völkerforschung und kolonialen Kulturwandel* 15 (1885): 129–52. https://hdl.handle.net/2027/hvd.tz12jf.