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FIFTH DISTRICT COURT OF APPEAL OF THE STATE OF CALIFORNIA

NONHUMAN RIGHTS PROJECT, INC., on behalf of Amahle, Nolwazi, and Mabu, individuals, Petitioner, v. FRESNO'S CHAFFEE ZOO CORPORATION, and JON FORREST DOHLIN, in his official capacity as Chief Executive Officer & Zoo Director of the Fresno Chaffee Zoo, Respondents.	Case No. ____________________ **Petition for a Common Law Writ of Habeas Corpus, Memorandum of Points and Authorities** Following the denial of relief in *In re Nonhuman Rights Project, Inc., on behalf of Amahle, Nolwazi, and Vusmusi, On Habeas Corpus* (Fresno Sup. Ct. No. 22CECG02471).

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PETITION FOR WRIT OF HABEAS CORPUS

INTRODUCTION

1. Amahle, Nolwazi, and Mabu are three African elephants unlawfully imprisoned and restrained of their liberty at the Fresno Chaffee Zoo (hereafter Fresno Zoo) by Respondents Fresno's Chaffee Zoo Corporation and its Chief Executive Officer & Zoo Director, Jon Forrest Dohlin (hereafter Respondents), in the city of Fresno, California.
2. Petitioner Nonhuman Rights Project, Inc. (hereafter NhRP) sought habeas corpus relief on behalf of Amahle, Nolwazi, and an elephant named Vusmusi in the Fresno County Superior Court (hereafter Superior Court) in the matter *In re Nonhuman Rights Project, Inc., on behalf of Amahle, Nolwazi, and Vusmusi, On Habeas Corpus* (hereafter *In re NhRP*). The Superior Court's decision is attached as Exhibit 1 and the Verified Petition for a Common Law Writ of Habeas Corpus (hereafter Petition) filed by the NhRP in that case is attached as Exhibit 2. The Petition is incorporated herein by this reference.
3. During the pendency of the proceedings in the Superior Court, Vusmusi was transferred out of the Fresno Zoo and replaced by Mabu. The arguments advanced on behalf of Vusmusi in the Petition apply equally to Mabu.[1]

[1] The affidavits of Cynthia Moss, Sc.D., Karen McComb, Ph.D., Richard M. Byrne, Ph.D., Lucy Bates, Ph.D., and Joyce Poole, Ph.D., speak to elephants generally. Ex. 2, ¶¶ 31-32. Bob Jacobs, Ph.D., and Keith Lindsay, Ph.D., have submitted new declarations specifically discussing Mabu. Ex 3; Ex. 4.

4. The NhRP files this Verified Petition for a Common Law Writ of Habeas Corpus (hereafter Appellate Petition) on behalf of Amahle, Nolwazi, and Mabu and seeks this Court's recognition of their common law right to bodily liberty protected by habeas corpus, and no other right. Upon this Court's recognition of the elephants' right, and determination that their imprisonment at the Fresno Zoo violates this right, the NhRP seeks their discharge from the Fresno Zoo and placement in a rewilding facility, if possible, or an appropriate elephant sanctuary where they can exercise their autonomy and extraordinary cognitive complexity to the greatest extent possible.
5. Whether the elephants are entitled to habeas corpus relief is the substantive question for this Court to decide under California common law.
6. Respondents' imprisonment of Amahle, Nolwazi, and Mabu is unlawful because it violates their common law right to bodily liberty protected by habeas corpus in so far that it deprives the elephants of their ability to meaningfully exercise their autonomy and extraordinary cognitive complexity, including the freedom to choose where to go, what to do, and with whom to be. Ex. 2, ¶¶ 5, 196. The question before the Court is not whether the Respondents' imprisonment of the elephants is unlawful because it violates some statute.
7. That Respondents may be in compliance with animal welfare statutes does not render the elephants' confinement lawful as those statutes do not address the right to bodily liberty. See *Nonhuman Rights Project, Inc. v. Breheny* (2022) 38 N.Y.3d 555, 579 (hereafter *Breheny*) (Wilson, J., dissenting) ("The question is not whether

[the elephant]'s detention violates some statute: historically, the Great Writ of habeas corpus was used to challenge detentions that violated no statutory right and were otherwise legal but, in a given case, unjust.").

8. This Court—not the legislature—has the duty to recognize Amahle, Nolwazi, and Mabu's common law right to bodily liberty protected by habeas corpus because California courts may not abdicate their responsibility for changing archaic common law when common-sense justice demands it. Ex. 2, ¶¶ 163-165; see also *Breheny*, 38 N.Y.3d at 634 (Rivera, J., dissenting) ("the fundamental right to be free is grounded in the sanctity of the body and the life of autonomous beings and does not require legislative enactment").

JURISDICTION AND STANDING

9. This Court has original jurisdiction over this Appellate Petition. Cal. Const., art. VI, § 10. Amahle and Nolwazi were denied habeas corpus relief in *In re NhRP*, but that decision was significantly flawed as explained in the Memorandum of Points and Authorities in Support of the Appellate Petition (hereafter Memorandum). No previous application for a writ of habeas corpus has been made on behalf of Mabu.
10. The NhRP has standing to bring this case on behalf of Amahle, Nolwazi, and Mabu under Cal. Penal Code § 1474. Ex. 2, ¶¶ 19-27. Moreover, the Superior Court did not take issue with the NhRP's standing on behalf of Amahle and Nolwazi.

ORDER TO SHOW CAUSE

11. In California, a prima facie case is made when a habeas corpus petition alleges unlawful restraint, names the person by whom the petitioner is so restrained, and

specifies the facts on which he bases his claims that the restraint is unlawful. *In re Lawler* (1979) 23 Cal.3d 190, 194 (hereafter *Lawler*) (citing Cal. Penal Code § 1474). In accordance with *Lawler*, the Appellate Petition (1) alleges that Respondents' imprisonment of Amahle, Nolwazi, and Mabu is unlawful because the imprisonment violates the elephants' common law right to bodily liberty protected by habeas corpus, (2) names Fresno's Chaffee Zoo Corporation and Jon Forrest Dohlin as the Respondents, and (3) specifies that Respondents' imprisonment of Amahle, Nolwazi, and Mabu violates the elephants' common law right to bodily liberty protected by habeas corpus because it deprives them of their ability to meaningfully exercise their autonomy and extraordinary cognitive complexity, including the freedom to travel, forage, communicate, socialize, plan for the present and future, and thrive as elephants should.

12. As the Appellate Petition states a prima facie case for relief, this Court must issue an order to show cause. See Ex. 2, ¶¶ 96-104 (prima facie argument); Memorandum at (III) (same); Cal. Rule of Court 8.385(d) ("If the petitioner has made the required prima facie showing that he or she is entitled to relief, the court must issue an order to show cause.").

PARTIES

13. Petitioner NhRP is a 501(c)(3) non-profit corporation incorporated in the State of Massachusetts, with a principal address at 5195 NW 112th Terrace, Coral Springs, Florida. The NhRP is the only civil rights organization in the United States dedicated solely to securing legal rights for nonhuman animals. Since 1995, the

NhRP has worked to obtain the legal right to bodily liberty for autonomous nonhuman animals such as chimpanzees and elephants.

14. Amahle, Nolwazi, and Mabu are three elephants imprisoned at the Fresno Zoo. See generally Lindsay Decl. ¶¶ 40-52.

- Amahle is an approximately 12-year-old wild-born female African elephant who grew up in Swaziland's Hlane National Park.[2] In 2016, she was kidnapped from her home and brought to the Dallas Zoo. She was thereafter transferred to the Fresno Zoo where she has been imprisoned by Respondents ever since.[3]
- Nolwazi, the mother of Amahle, is an approximately 27-year-old wild-born female African elephant who grew up and raised her calves in Swaziland's Hlane National Park.[4] In 2016, she was kidnapped from her home and brought to the Dallas Zoo. She was thereafter transferred to the Fresno Zoo.[5]

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[2] The Elephant Database, Amahle, https://bit.ly/3y09H7g.

[3] Charles Siebert, *Zoos Called It a 'Rescue.' But Are the Elephants Really Better Off?* N.Y. TIMES (July 9, 2019), https://nyti.ms/2ZYi2vw ("Despite mounting evidence that elephants find captivity torturous, some American zoos still acquire them from Africa"); see also Teresa Gubbins, *Author Charles Siebert shares intel on his New York Times story about Dallas Zoo* (July 30, 2019), https://bit.ly/3xY7tW5 ("It's one of those longstanding questions about civilization itself, with all the darkness that comes with that. Why do we need to look at them and stare at them? At what point does our wonder no longer warrant another being's wounding?").

[4] The Elephant Database, Nolwazi, https://bit.ly/3EHhbOQ.

[5] Siebert, https://nyti.ms/2ZYi2vw.

- Mabu, also known as Mabhulane, is a 32-year-old wild-born male African elephant who was born in 1990 at Kruger National Park in Kenya. He was kidnapped and imported to the United States in 2003. He has been imprisoned at three Association of Zoos & Aquariums accredited facilities since 2003: the San Diego Zoo Safari Park in Escondido, CA from 2003-2012 and again from 2016-2018; the Reid Park Zoo in Tucson, AZ from 2012-2016 and again from 2018-2022; and the Fresno Chaffee Zoo in Fresno, CA from 2022-present.[6]

15. Respondent Fresno's Chaffee Zoo Corporation, which manages the Fresno Zoo, is a 501(c)(3) non-profit corporation incorporated in the State of California with a principal place of business at 894 W. Belmont Ave., Fresno, CA 93728. Respondent Jon Forrest Dohlin is the Chief Executive Officer & Zoo Director of the Fresno Zoo.

FACTUAL BACKGROUND

16. The Expert Scientific Affidavits attached to the Petition are from seven of the world's most renowned elephant scientists with expertise in elephant behavior and cognition.[7] See Ex. 2, ¶¶ 33-95 (discussing the affidavits); see also Ex. 3 (Dr. Jacobs's updated declaration independently attached to the Appellate Petition); Ex. 4 (Dr. Lindsay's updated declaration independently attached to the Appellate Petition). The affidavits and declarations demonstrate that Amahle, Nolwazi, and

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[6] The Elephant Database, Mabu, https://bit.ly/3k88VSR.

[7] The "Expert Scientific Affidavits" should have been labeled "Expert Scientific Declarations" as they were signed but not notarized. However, these declarations retain the same "force and effect" as affidavits pursuant to Cal. Civ. Pro. Code § 2015.5. Accordingly, the labeling of the declarations as affidavits has no legal effect.

Mabu are autonomous and extraordinarily cognitively complex beings, with complex biological, psychological, and social needs. The affidavits and declarations also demonstrate that Amahle, Nolwazi, and Mabu are not living any kind of life that is acceptable for an elephant.

17. Elephants possess numerous complex cognitive abilities, including: autonomy; empathy; self-awareness; self-determination; theory of mind (awareness others have minds); insight; working memory; extensive long-term memory that allows them to accumulate social knowledge; the ability to act intentionally and in a goal-oriented manner, and to detect animacy and goal directedness in others; understanding the physical competence and emotional state of others; imitating, including vocal imitation; pointing and understanding pointing; engaging in true teaching (taking the pupil's lack of knowledge into account and actively showing them what to do); cooperating and building coalitions; cooperative problem-solving, innovative problem-solving, and behavioral flexibility; understanding causation; intentional communication, including vocalizations to share knowledge and information with others in a manner similar to humans; ostensive behavior that emphasizes the importance of a particular communication; displaying a wide variety of gestures, signals, and postures; using specific calls and gestures to plan and discuss a course of action, adjusting their planning according to their assessment of risk, and executing the plan in a coordinated manner; complex learning and categorization abilities; and, an awareness of and response to death, including grieving behaviors. Ex. 2, ¶ 33.

18. Elephants are autonomous as they exhibit self-determined behavior that is based on freedom of choice. *Id.* at ¶ 35. As a psychological concept, autonomy implies that the individual is directing their behavior based on some non-observable, internal cognitive process, rather than simply responding reflexively. *Id.*

19. Asian elephants exhibit "mirror self-recognition" (MSR) using Gallup's classic "mark test." *Id.* at ¶ 59. MSR is the ability to recognize a reflection in the mirror as oneself, while the mark test involves surreptitiously placing a colored mark on an individual's forehead that she cannot see or be aware of without the aid of a mirror. *Id.* If the individual uses the mirror to investigate the mark, the individual must recognize the reflection as herself. *Id.* MSR is significant because it is considered to be the key identifier of self-awareness. *Id.* at ¶ 60. Self-awareness is intimately related to autobiographical memory in humans, and is central to autonomy and being able to direct one's own behavior to achieve personal goals and desires. *Id.*

20. The capacity for mentally representing the self as an individual entity has been linked to general empathic abilities. *Id.* at ¶ 65. Empathy is defined as identifying with and understanding another's experiences or feelings by relating personally to their situation. *Id.* Empathy is an important component of human consciousness and autonomy and a cornerstone of normal social interaction. *Id.* It requires modeling the emotional states and desired goals that influence others' behavior both in the past and future, and using this information to plan one's own actions; empathy is possible only if one can adopt or imagine another's perspective, and attribute

emotions to that other individual. *Id.* Thus, empathy is a component of the "theory of mind." *Id.*

21. Elephants frequently display empathy in the form of protection, comfort, and consolation, as well as by actively helping those in difficult situations, such as assisting injured individuals to stand and walk, or helping calves out of rivers or ditches with steep banks. *Id.* at ¶ 66. Researchers have observed elephants reacting when anticipating the pain of others by wincing when a nearby elephant stretched her trunk toward a live wire as well as feeding those unable to use their own trunks to eat and attempting to feed those who have just died. *Id.*

22. Long-lived mammals—like cetaceans and elephants—who possess large, complex brains integral to their intricate socio-behavioral existence cannot function normally in captivity. *Id.* at ¶ 80. Given that the brains of large mammals have a lot in common across species, "there is no logical reason to believe that the large, complex brains of animals such as elephants . . . would react any differently to a severely stressful environment than does the human brain." *Id.* Elephants experience permanent damage to their brains as a result of the trauma endured in impoverished environments. *Id.*

23. An elephant's cerebral cortex is negatively affected by an impoverished environment. *Id.* at ¶ 81. These effects include "a thinner cerebral cortex, decreased blood supply, smaller neuronal cell bodies with few glial ('helper') cells for metabolic support, decreased dendritic branching for synthesizing information,

fewer dendritic spines (indicating fewer connections with other neurons), and smaller, less efficient synapses." *Id.*

24. A crucial component of an enriched environment is exercise, which increases the supply of oxygenated blood to the brain and enhances cognitive abilities through a series of complex biochemical cascades. *Id.* at ¶ 82. Captive/impoverished elephants living in small enclosures are severely deprived of exercise, especially when one considers that elephants in the wild travel tens of kilometers a day (sometimes more than 100 kilometers). *Id.* Captive/impoverished elephants possess cortical neurons that are "less complex, receive less metabolic support, and process information less efficiently than cortical neurons from animals in an enriched, more natural environment." *Id.*

25. In a natural environment, the body's stress-response system is designed for "quick activation" to escape dangerous situations; in captivity, where animals have a near total lack of control over their environment, there is no escape, and such situations foster learned helplessness. *Id.* at ¶ 84. The stress that humans experience under similar conditions is associated with a variety of neuropsychiatric diseases such as anxiety/mood disorders, including major depression and post-traumatic stress disorder. *Id.*

26. From a neural perspective, imprisoning elephants and putting them on display is "undeniably cruel." *Id.* at ¶ 86. Holding elephants captive and confined "prevents them from engaging in normal, autonomous behavior and can result in the development of arthritis, osteoarthritis, osteomyelitis, boredom, and stereotypical

behavior." *Id.* When held in isolation, "elephants become bored, depressed, aggressive, catatonic, and fail to thrive." *Id.* And "[h]uman caregivers are no substitute for the numerous, complex social relationships and the rich gestural and vocal communication exchanges that occur between free-living elephants." *Id.*

27. Amahle, Nolwazi, and Mabu are not living any kind of life that is acceptable for an elephant. *Id.* at ¶¶ 87-92; see also Lindsay Decl. ¶¶53-71; Jacobs Decl. ¶¶19-21. Neither the indoor nor outdoor facilities at the Fresno Zoo allow the elephants to fulfill their physical and psychological needs, including the need to exercise their autonomy. *Id.* Their lives are nothing but a succession of boring and frustrating days, damaging to their bodies and minds, and punctuated only by the interaction with their keepers. Lindsay Decl. ¶ 71.

28. Amahle, Nolwazi, and Mabu's physical and psychological health have been severely compromised by the sustained deprivation of their autonomy and freedom of movement and therefore they should be sent to a suitable rewilding facility, if possible, or an elephant sanctuary where they can lead successful and fulfilling lives. Ex. 2, ¶¶ 93-95 (an elephant sanctuary is an acceptable place for elephants).

29. For example, sanctuaries offer significantly more space, which allows elephants to exercise their autonomy, develop more healthy social relationships, and engage in near-natural movement, foraging, and repertoire of behavior. Ex. 2, ¶ 93. Elephants need a choice of social partners, and the space to permit them to be with whom they want, when they want, and to avoid particular individuals when they want. *Id.*

30.

DENIAL OF THE PETITION

31. On November 15, 2022, Judge Arlan L. Harrell denied the Petition for lack of jurisdiction on the ground that it "failed to establish that any of the three elephants were in the actual or constructive custody of the State of California at the time the instant habeas corpus petition was filed." Ex. 1, p. 3. According to the Superior Court, "in order to satisfy jurisdictional requirements under California law, an individual must be in actual or constructive state custody at the time he or she files a petition for writ of habeas corpus." *Id.* at 2 (internal quotations and citations omitted).

32. As the Memorandum explains, restricting habeas corpus relief to individuals in state custody: (1) contradicts the plain meaning of Cal. Penal Code § 1473(a); (2) contradicts California's long common law history of permitting habeas corpus to challenge private detentions; and (3) violates Article 1, § 11 of the California Constitution. The practical effect of the Superior Court's decision prohibits privately detained humans from availing themselves of habeas corpus.

PRAYER FOR RELIEF

The NhRP respectfully requests that this Court

1. Issue an Order to Show Cause why relief should not be granted;
2. Grant habeas corpus relief and order that Amahle, Nolwazi, and Mabu be discharged from their unlawful imprisonment at the Fresno Zoo;

3. Order Amahle, Nolwazi, and Mabu transferred to a rewilding facility, or order them transferred to an appropriate elephant sanctuary if rewilding is not viable;
4. Grant all other relief necessary for the just resolution of this case.

February 14, 2023

Respectfully submitted,

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LIST OF EXHIBITS

The following exhibits are true and correct copies of the documents indicated. They are incorporated by reference into this Appellate Petition and Memorandum.

Exhibit 1: Decision by the Superior Court of California, County of Fresno, Central Division in *In re NhRP*.

Exhibit 2: Verified Petition for a Common Law Writ of Habeas Corpus (i.e., Petition).

Exhibit 3: Declaration of Bob Jacobs, Ph.D.

Exhibit 4: Declaration of Keith Lindsay, Ph.D.

Exhibit 5: Order by the Superior Court of California, County of San Francisco, transferring the matter to Fresno County Superior Court.

Exhibit 6: Notice and Request for Ruling by the NhRP.

Exhibit 7: Order Re: Request for Ruling by Superior Court of California, County of Fresno, Central Division.

Exhibit 8: Order Vacating October 18, 2022, Request That Respondent Submit a Response by Superior Court of California, County of Fresno, Central Division.

Exhibit 9: Notice of Transfer of Papers and Pleadings to Fresno County Superior Court, Criminal Division by Superior Court of California, County of Fresno, Central Division.

MEMORANDUM OF POINTS AND AUTHORITIES IN SUPPORT OF THE APPELLATE PETITION

I. Introduction

This Memorandum[8] addresses the following three questions: (1) does habeas corpus reach private detentions in California? (2) Does the Appellate Petition state a prima facie case for relief, thereby requiring this Court to issue an order to show cause? (3) Should this Court recognize the common law right to bodily liberty protected by habeas corpus of the three elephants held in private detention at the Fresno Zoo based on their autonomy and extraordinary cognitive complexity?

Habeas corpus has been used to remedy unlawful private detentions in California since the founding of the State. See, e.g., *Ex parte The Queen of the Bay* (1850) 1 Cal. 157 (hereafter *Queen of the Bay*). Yet, the Superior Court denied the Petition because the Petition did not allege that the elephants are in state custody, holding that "in order to satisfy jurisdictional requirements under California law, an individual must be in actual or constructive state custody at the time he or she files a petition for writ of habeas corpus." *In re NhRP* at 2 (internal quotations and citations omitted). This holding (1) contradicts the plain meaning of Cal. Penal Code § 1473(a); (2) contradicts California's long common law history of permitting habeas corpus to challenge private detentions; and (3) violates Article 1, § 11 of the California Constitution (hereafter Suspension Clause). The practical effect

[8] Defined terms in the Appellate Petition are incorporated by reference in the Memorandum.

of the Superior Court's decision prohibits privately detained humans from availing themselves of habeas corpus.

The NhRP has standing to bring this case on behalf of Amahle, Nolwazi, and Mabu, Ex. 2, ¶¶ 19-27, and this Court must issue an order to show cause since the Appellate Petition, which incorporates the allegations in the Petition, states a prima facie case for relief. Ex. 2, ¶¶ 96-104. A petition states a prima facie case when it "allege[s] unlawful restraint, name[s] the person by whom the petitioner is so restrained, and specif[ies] the facts on which he bases his claims that the restraint is unlawful." *Lawler*, 23 Cal.3d at 194 (citing Cal. Penal Code § 1474). The Appellate Petition makes the requisite showing.

II. Facts and procedural history

On May 3, 2022, the NhRP filed the Petition in the San Francisco County Superior Court (hereafter San Francisco Superior Court) on behalf of Amahle, Nolwazi, and Vusmusi, three elephants imprisoned at the Fresno Zoo. Ex. 2. The San Francisco Superior Court transferred the matter to the Superior Court where the case remained. Ex. 5. On October 17, 2022, the NhRP filed a notice and request for ruling pursuant to Cal. Rule of Court 4.551(a)(3)(B) because the Superior Court failed to rule on the Petition within the required 60 days of its filing. Ex. 6. The next day, the Superior Court issued an order on the request for ruling, which stated: "pursuant to California Rules of Court 4.551(a)(4) and (b)(1)(A) the court hereby requests that Respondents submit a response to Petitioner's Petition . . . no later than November 2, 2022." Ex. 7, p. 1. The following day, the Superior Court vacated its request for an informal response and said, "[a]n order ruling on the present petition will be issued shortly by a judge designated by the presiding judge to rule on petitions for writ of habeas corpus." Ex. 8, p. 1. The Petition was then transferred to the Superior Court's criminal division. Ex. 9.

On November 11, 2022, without notice to the NhRP, Respondents transferred Vusmusi out of the Fresno Zoo and replaced him with Mabu, a male elephant who had been imprisoned at the Reid Park Zoo in Tucson, Arizona. See *Mabu the elephant has moved*, NEWS 4 TUCSON (Nov. 12, 2022), https://bit.ly/3QAokaQ. On November 15, 2022, Judge Arlan L. Harrell denied the Petition for lack of jurisdiction because it "failed to establish that any of the three elephants were in the actual or constructive custody of the State of California at the time the instant habeas corpus petition was filed." Ex. 1, p. 3.

III. The prima facie case for relief

A. Relevant procedure and the significance of issuing the order to show cause

The Supreme Court of California has left no ambiguity as to this state's habeas corpus procedures. See, e.g., *People v. Romero* (1994) 8 Cal.4th 728, 736-42 (hereafter *Romero*). A petitioner initiates this process by "filing a verified petition for a writ of habeas corpus," *id.* at 737, or by having "some person in his behalf" file the petition. Cal. Penal Code § 1474. The Court must accept the allegations in the petition as true unless they contradict the court's own records. *In re Serrano* (1995) 10 Cal.4th 447, 456; see also Cal. Rules of Court 4.551(c)(1).

A court may deny a petition if it believes the petition "does not state a prima facie case for relief or that the claims are procedurally barred." *Romero*, 8 Cal.4th at 737. However, "[a]ny order denying a petition for writ of habeas corpus must contain a brief statement of the reasons for the denial." Cal. Rules of Court 4.551(g). Otherwise, it may ask the respondent for an informal response or issue an order to show cause (hereafter OSC) requiring the respondents to file a formal response. *Romero*, 8 Cal.4th 741-42; Cal. Rule of Court 4.551(b), (c).

"An order to show cause is a determination that the petitioner has made a prima facie showing that he or she may be entitled to relief." Cal. Rules of Court 4.551(c)(1), (c)(3) (emphasis added); Cal. Rule of Court 8.385(d) (OSC in appellate court upon prima facie showing). In determining whether to issue the OSC, a "court takes petitioner's factual allegations as true and makes a preliminary assessment regarding whether the petitioner would be entitled to relief if his or her factual allegations were proved. If so, the court must issue an order to show cause." Cal. Rule of Court 4.551(c)(1).

As the Supreme Court has emphasized, this determination "is truly 'preliminary': it is only initial and tentative, and not final and binding." *In re Large* (2007) 41 Cal.4th 538, 549 (citation omitted). Thus, a court can issue an OSC and then determine that the allegations of the petition are insufficient as a matter of law to merit relief.[9] See *In re Sassounian* (1995) 9 Cal.4th 535, 547 ("In issuing our order to show cause, we had

[9] In 2015, the NhRP secured the first-ever habeas corpus order to show cause on behalf of a nonhuman animal in the United States when a court in New York County, New York demanded New York State justify its imprisonment of the chimpanzees Hercules and Leo. *Matter of Nonhuman Rights Project, Inc. v. Stanley* (Sup. Ct. 2015) 49 Misc.3d 746, 755 ("Given the important questions raised here, I signed the petitioner's order to show cause, and was mindful of petitioner's assertion that 'the court need not make an initial judicial determination that Hercules and Leo are persons in order to issue the writ and show cause order.'"). In 2018, the NhRP secured the world's first habeas corpus order to show cause on behalf of an elephant when a court in Orleans County, New York demanded the respondents justify their long imprisonment of an Asian elephant named Happy at the Bronx Zoo. Mallory Diefenbach, *Orleans County issues first habeas corpus on behalf of elephant*, THE DAILY NEWS (Nov. 21, 2018), https://bit.ly/3AwkCWV.

preliminarily determined that petitioner had carried his burden of allegation as to two claims….[but w]e are now of the opinion that petitioner has failed to carry his burden of allegation as to *any* claim.").

Although the issuance of an OSC does not mean a court must grant relief or even hold an evidentiary hearing, it nevertheless is a critical part of habeas proceedings. The court can allow the respondent to file an informal response to a petition at any time, but only the issuance of an OSC commands the respondent to file a responsive pleading, called a return, setting forth facts that justify the petitioner's imprisonment. *Romero*, 8 Cal.4th at 738-39. The return "becomes the principal pleading," roughly analogous to a civil complaint. *Id.* at 738 (internal quotations and citations omitted). The petitioner must then file a traverse (also known as a denial), which "may incorporate the allegations of the petition," or controvert the respondent's allegations and add new facts, showing that the imprisonment is unlawful. *Id.* at 739; Cal. Rule of Court 4.551(e). The court then determines whether it can deny or grant relief based on the undisputed facts; if the facts are disputed, it "should order an evidentiary hearing." *Romero*, 8 Cal.4th at 740 (citing Cal. Penal Code § 1484). The court cannot grant relief without first issuing an OSC. *Id.* at 744.

B. This Court must issue an order to show cause because the Appellate Petition establishes a prima facie case for relief

For the purpose of issuing the OSC, this Court must first assume, without deciding, that Amahle, Nolwazi, and Mabu have the common law right to bodily liberty protected by habeas corpus.[10] It cannot determine the merits of the case at this stage. See generally *Romero*, 8 Cal.4th at 728. As the NhRP makes a prima facie showing that the elephants are entitled to relief, this Court must issue the order to show cause pursuant to Cal. Rule of Court 8.385(d). The Appellate Petition establishes a prima facie case because the evidence produced, when considered in the light most favorable to the elephants with all reasonable inferences drawn in their favor, permits this Court to find that they are entitled to release from their unlawful confinement to a rewilding facility or an elephant sanctuary.

In a similar habeas corpus case brought by the NhRP on behalf of Happy (an elephant imprisoned at the Bronx Zoo), Judge Rowan D. Wilson of the New York Court of Appeals found that Happy made a prima facie showing entitling her to release to an elephant sanctuary. *Breheny*, 38 N.Y.3d at 617 (Wilson, J., dissenting). Judge Wilson's prima facie evaluation began by "taking the information Happy has submitted as true, and granting every possible reasonable inference in her favor." *Id*. at 618. He considered: "'what does the information submitted by the petitioner [Happy] tell us about the petitioner?' [and] 'what does the information submitted by the petitioner tell us about the confinement?'" *Id*. at 621-21. "What was unknown about animal cognizance and sentience a century ago is particularly relevant to whether Happy should be able to test her confinement by way of habeas corpus because we now have information suggesting that

[10] In the landmark case of *Somerset v. Stewart* (K.B. 1772) 1 Lofft. 1, 98 Eng. Rep. 499 (hereafter *Somerset*), available at: https://bit.ly/3jpLmKH, Lord Mansfield assumed, without deciding, that an enslaved Black man named James Somerset could possess the common law right to bodily liberty protected by habeas corpus when he famously issued the writ requiring the respondent to justify Somerset's detention. *Somerset* is part of California common law. Ex 2, ¶ 109.

her confinement may be cruel and unsuited to her well-being." *Id*. at 607. Judge Wilson accepted "as true the (largely unchallenged) expert affidavits submitted on behalf of Happy" and found that "Happy and elephants like her possess complex cognitive abilities 'of a great number.'" *Id*. at 618. "Happy is a being with highly complex cognitive, social and emotional abilities. She has self-awareness, social needs and empathy. She also comes from a wild, highly social species whose bodies and minds are accustomed to traversing long distances to connect with others and to find food." *Id.* at 620.

Next, Judge Wilson evaluated the nature of Happy's confinement and found that her habitation at the Bronx Zoo—which "is a minuscule fraction of the size of elephants' typical environments" in the wild—"is causing her deep physical and emotional suffering because it is so unnaturally different from conditions that meet the needs of elephants." *Id.* at 619-20. Accepting all the information submitted as true, Judge Wilson concluded: "Happy has very substantial cognitive, emotional and social needs and abilities, and that those qualities coupled with the circumstances of her particular confinement establish a prima facie case that her present confinement is unjust." *Id.* at 626.

Judge Wilson's instructive dissent provides crucial guidance to this Court. In California, a prima facie case is made when a petition "allege[s] unlawful restraint, name[s] the person by whom the petitioner is so restrained, and specif[ies] the facts on which he bases his claims that the restraint is unlawful." *Lawler*, Cal.3d at 194 (citing Cal. Penal Code § 1474). In accordance with *Lawler* and *Romero*, the Appellate Petition (1) alleges that the Respondents' imprisonment of Amahle, Nolwazi, and Mabu is unlawful because the imprisonment violates the elephants' common law right to bodily liberty protected by habeas corpus, (2) names Fresno's Chaffee Zoo Corporation and Jon Forrest Dohlin as the Respondents, and (3) specifies that Respondents' imprisonment of Amahle, Nolwazi, and Mabu violates the elephants' common law right to bodily liberty protected by habeas corpus because it deprives them of their ability to meaningfully exercise their autonomy and extraordinary cognitive complexity, including the freedom to choose where to go, what to do, and with whom to be. See Ex. 2, ¶¶ 96-104. As the Petition states a prima facie case, this Court must issue an OSC.

IV. Argument

A. Habeas corpus reaches private detention in California

1. The unambiguous language of Cal. Penal Code § 1473(a) is nearly unchanged since 1850 and that language has always permitted habeas corpus to challenge private detentions

The Superior Court denied the Petition because the Petition failed to allege that the three elephants were not in state custody, holding that "in order to satisfy jurisdictional requirements under California law, an individual must be in actual or constructive state custody at the time he or she files a petition for writ of habeas corpus." *In re NhRP* at 2 (citations and internal quotations omitted). If this holding is permitted to stand, the plain meaning of Cal. Penal Code § 1473(a) would be upended.

"A person unlawfully imprisoned or restrained of their liberty, under <u>any pretense</u>, may prosecute a writ of habeas corpus to inquire into the cause of the imprisonment or restraint." Cal. Penal Code § 1473(a) (emphasis added). In construing this or any statute, "'[t]he words of the statute should be given their ordinary and usual meaning and should be construed in their statutory context.'" *People v. Toney* (2004) 32 Cal.4th 228, 232 (citation omitted). "If the statutory language is unambiguous, 'we presume the legislature meant what it said, and the plain meaning of the statute governs.'" *Id.* (citations omitted). The critical phrase "any pretense" in § 1473(a) is neither circumscribed nor qualified by further legislative direction. It unambiguously permits challenges to any form of unlawful imprisonment or restraint, including private detentions.[11] Accordingly, prohibiting the use of habeas corpus to challenge private detentions is inconsistent with the plain meaning of § 1473(a).

The unambiguity of § 1473(a) is further evidenced by the fact that its language has remained essentially unchanged since at least April 20, 1850, when California enacted "An Act *concerning the Writ of Habeas Corpus*," which stated: "Every person unlawfully committed, detained, confined, or restrained of his liberty, under <u>any pretence whatever</u>, may prosecute a writ of habeas corpus, to inquire into the cause of such imprisonment or restraint." Acts of 1850, Ch. 32, § 1, available at: https://bit.ly/3lsVjlN (emphasis added).[12] The import of the language in the 1850 statute was made clear in *Queen of the Bay*, a private detention case decided by California Supreme Court later that same year. *Queen of*

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[11] Cf. *County of Los Angeles v. Workers' Comp. Appeals Bd.* (1981) 30 Cal.3d 391, 398 (ignoring "the disjunctive word 'or' . . . . does not square with the plain meaning of the statute"); *People v. Wharton* (1991) 53 Cal. 3d 522, 562, as modified on denial of reh'g (July 9, 1991) (concluding "the plain meaning of the language of section 1024 cannot be reasonably read as having the far-reaching, preclusive effect advocated by defendant and amici curiae").

[12] Cal. Penal Code § 1473 was originally enacted in 1872 and remains essentially unchanged today; the 1872 habeas corpus statute (in all relevant ways) was essentially unchanged from Ch. 32 of the Acts of 1850. (Ex. 2, p. 20, ¶ 20).

the Bay was "a doozie of a case about some pirates who kidnap[ped] several female members of a Pacific island royal family and [brought] them to San Francisco for, well, no good purpose." The Hon. Dan McNerney, *Features: The Seminal Case*, 46 ORANGE CNTY. LAWYER 21, 22 (2004), available at: https://bit.ly/3VVJf9J. The kidnapped women were eventually discharged from the "great cruelty" that was their private detention by a successful habeas corpus petition. *Queen of the Bay*, 1 Cal. at 157. The case has never been overruled and has been cited with approval by the Supreme Court. See *In re Clark* (1993) 5 Cal.4th 750, 764 (hereafter *Clark*) (citing, inter alia, *Queen of the Bay*, 1 Cal. 157) ("The writ has been available to secure release from unlawful restraint since the founding of the state.").

Accordingly, the plain meaning of Cal. Penal Code § 1473(a)—as informed by its statutory history and *Queen of the Bay*—leaves no doubt that even today, an individual need not be in state custody to satisfy the jurisdictional requirements for successfully litigating a habeas corpus petition.

2. Habeas corpus has long been used to challenge private detentions in California, sister jurisdictions, and abroad

Habeas corpus has a long history of being used to challenge private detentions. "[W]hether considered as it existed at common law or under the English statutes, or as guaranteed under the Constitutions of the various states, including our own, with appropriate statutory procedure for readily invoking it, the essential object and purpose of the writ is to inquire into all manner of involuntary restraint, as distinguished from voluntary, and relieve a person therefrom if such restraint is illegal." *In re Ford* (1911) 160

Cal. 334, 340 disapproved of on other grounds by *In re Petersen* (1958) 51 Cal.2d 177 (emphasis added); see also *Browne v. Superior Court of San Francisco* (1940) 16 Cal.2d 593, 608 (Shenk, J., dissenting) ("The essential object and purpose of the writ [is] to inquire into all manner of involuntary restraint. This writ has long been regarded as the greatest remedy known to the law whereby one unlawfully restrained of his liberty may secure release or have his civil rights defined."); *Preiser v. Rodriguez* (1973) 411 U.S. 475, 484 (In England, "[w]hether the petitioner had been placed in physical confinement by executive direction alone, or by order of a court, <u>or even by private parties</u>, habeas corpus was the proper means of challenging that confinement and seeking release.") (citations omitted) (emphasis added).

In the landmark case of *Somerset v. Stewart* (K.B. 1772) 1 Lofft. 1, 98 Eng. Rep. 499 (hereafter *Somerset*), available at: https://bit.ly/3jpLmkH, a habeas corpus petition was brought on behalf of a privately enslaved Black man, James Somerset. Ultimately, Lord Mansfield of the King's Bench granted the petition and ordered Somerset freed, ruling that "[t]he state of slavery is . . . so odious, that nothing can be suffered to support it" under the common law. *Id.* at 19. *Somerset* is part of California common law and has never been overruled. Ex. 2, ¶ 109. High court decisions in sister states have also relied upon *Somerset* to secure the freedom of enslaved humans in private detention through habeas corpus. See, e.g., *Lemmon v. People* (1860) 20 N.Y. 562, 604-06, 623; *Jackson v. Bulloch* (1837) 12 Conn. 38, 41, 42, 53; *Commonwealth v. Aves* (1836) 35 Mass. 193, 211-12. The *Somerset* case thus shows "how the Great Writ was flexibly used by the courts as a tool for innovation and social change." *Breheny*, 38 N.Y.3d at 592 (Wilson, J., dissenting).

As shown *supra*, (IV)(A)(1), the storied history of habeas corpus being used to challenge private detentions extended beyond *Somerset* in England to *Queen of the Bay* in California. A mere six years after *Queen of the Bay*, the writ was again invoked in California in the private detention context, this time to challenge the social norm of human slavery. In late 1855, a slaveholder from Mississippi living in San Bernardino "attempted to force all of the blacks he claimed as his slaves to go with him to Texas, where slavery was vigorously enforced, and where he might attempt to sell them." BRIAN MCGINTY, ARCHY LEE'S STRUGGLE FOR FREEDOM 30 (2020). "One of the blacks ['Biddy'] objected strenuously to the move. She managed to get a petition for habeas corpus filed before a district judge in Los Angeles named Benjamin Hayes."[13] *Id.* "In a written decision filed on January 19, 1856, Hayes ruled that 'Biddy' and all of the other blacks that Smith claimed as his slaves [14 in total] did not have to go to Texas." *Id.* Hayes wrote, "all of the said persons of color are entitled to their freedom, and are free and cannot be held in slavery or involuntary servitude," and "they are . . . free forever." *(1856) Mason v. Smith (The Bridget "Biddy" Mason Case)*, BLACKPAST, https://bit.ly/3VRvvgq (last visited Dec. 13, 2022) (hereafter *Mason Case*). His reasoning hinged on the fact that had Black people been allowed to be removed from California to Texas, their "free will and consent," along with "their liberty," would be "greatly jeopardized." *Id.*

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[13] Benjamin Hayes was "a learned man with a brilliant legal mind," and his "inspiring rulings are still cited in that state's courts." *Benjamin Ignatius Hayes, Lawyer, and Judge*, AFRICAN AMERICAN REGISTRY, https://bit.ly/3jvvfpC (last visited Feb. 2, 2023).

Somerset's adoption into California law, the controlling precedent of *Queen of the Bay*, the *Mason Case*, and the history of habeas corpus, directly refute the Superior Court's holding that habeas corpus cannot reach individuals in private detention. Indeed, the use of habeas corpus to challenge private detentions is part of the Great Writ's long history in California and throughout this country.[14] The Superior Court's decision in *In re NhRP* is an outlier and must be rejected; there is no other case in California that imposes a state custody requirement to a privately detained individual.

3. Two New York Court of Appeals judges make clear that habeas corpus applies to private detentions

The dissenting opinions of Judge Wilson and Judge Jenny Rivera in Happy's case also make clear that habeas corpus protections extend to private detention. Early in his

[14] See, e.g., *In re Glenn* (1880) 54 Md. 572, 576 ("Whenever a person is restrained of his liberty by being confined in a common jail, or by a private person, whether it be for a criminal or civil cause, he may regularly, by habeas corpus, have his body and cause removed to some superior jurisdiction, which hath authority to examine the legality of such commitment.") (cleaned up) (emphasis added); *Peterson v. Utah Bd. of Pardons* (1995) 907 P.2d 1148, 1153 n.2 ("A writ of habeas corpus may, of course, be used for purposes other than testing the authority of a governmental agency or officer to restrain the liberty of a person. It can also be used . . . in certain cases, to challenge the authority of a private person to restrain the liberty of another.") (citations omitted) (emphasis added); *Lozada v. Warden, State Prison* (1992) 223 Conn. 834, 841 ("a writ of habeas corpus could be granted 'in all cases where any person is restrained of his liberty by imprisonment . . . by any process or way not warranted by law; or when he is unlawfully confined, or wrongly deprived of his liberty by a private person'") (citation omitted) (emphasis added); see also Jonathan L. Hafetz, *The Untold Story of Noncriminal Habeas Corpus and the 1996 Immigration Acts*, 107 YALE L.J. 2509, 2522-23 (1998) ("Despite the long association between habeas corpus and criminal confinement, the writ was available at common law to challenge a broad range of noncriminal confinement, both public and private. . . . Indeed, the common law writ has been used to test the legality of noncriminal custody since at least the early seventeenth century, and courts issued writs of habeas corpus in an array of noncriminal contexts.") (emphasis added).

dissent, Judge Wilson, in explaining the broad scope of habeas corpus and its historical use, stated that "[t]he writ reaches both public and private detention." *Breheny*, 38 N.Y.3d at 580 (Wilson, J., dissenting). He would go on to explain that "[h]abeas petitions were not limited to detainment orchestrated or managed by the government; habeas equally reached private confinements." *Id.* at 589. Judge Wilson then provided examples of habeas corpus being used to challenge private detentions like "stories told in the King's Bench about wives who were wrongfully confined in private madhouses," which showed that the writ "is a tool for society to challenge confinement, construed broadly, and can document and raise awareness of injustices that may warrant legislative, policy, or social solutions." *Id.* at 602. Importantly, King's Bench decisions releasing women from private madhouses became part of California's jurisprudence when the state "passed an act 'adopting the common law' . . . of England," and made it "'the rule of decision in all the courts of this state.'" *Lux v. Haggin* (1886) 69 Cal. 255, 337 (citation omitted).

Judge Rivera echoed Judge Wilson's reasoning on using habeas corpus to challenge private detentions when she explained how, under the common law, "despite the legal doctrine of coverture which subsumed a woman's legal personhood into that of her husband, women nonetheless resorted to writs of habeas corpus to seek release from confinement in their abusive husbands' homes or private insane asylums." *Id.* at 630 (Rivera, J., dissenting) (citation omitted). As examples to demonstrate "the flexibility of the historical uses of the writ," Judge Rivera cited private detention cases involving "an enslaved human being with no legal personhood (*see Somerset*, 98 ER 499)" and "a married woman who could be abused by her husband with impunity (*see* Foyster)." *Id.* at 631-32.

4. The state custody requirement in *In re Sodersten* and *People v. Villa* applies only in the criminal context and is not applicable to private detentions

The Superior Court was wrong to rely on *In re Sodersten* (2007) 146 Cal.App.4th 1163 (hereafter *Sodersten)* and *People v. Villa* (2009) 45 Cal.4th 1063 (hereafter *Villa*) because those criminal habeas corpus cases do not apply to private detentions. *Sodersten* and *Villa* were cited for the proposition that "in order to satisfy jurisdictional requirements under California law, an individual must be in actual or constructive state custody at the time he or she files a petition for writ of habeas corpus." *In re NhRP* at 2 (citations and internal quotations omitted). As the elephants were imprisoned at the Fresno Zoo (a private entity) at the time of the filing of the Petition and therefore not in "actual or constructive state custody," the Superior Court denied the Petition for lack of jurisdiction. However, the state custody jurisdictional requirement enunciated in *Sodersten* and *Villa* reflects the law in California in the criminal context of individuals proceeding under habeas corpus while in the custody of a governmental entity. Those cases are clearly distinguishable from this case and do not reflect the law in the context of private habeas corpus proceedings.

In *Sodersten*, the petitioner was an inmate who sought habeas relief on the grounds that he was denied a fair trial due to the prosecution's failure to disclose pertinent evidence. 146 Cal.App.4th at 1216. The court concluded it had jurisdiction because the petitioner was incarcerated in California and thus under actual custody of the state. *Id.* at 1217 ("As petitioner was imprisoned at all pertinent times, . . . he fulfilled the [jurisdictional] requirements."). In *Villa,* the petitioner was placed in a federal detention center in Alabama after he tried to renew his permanent resident status. 45 Cal.4th at 1067. The ground for the detention was his 1989 conviction for the possession of cocaine in California. *Id*. While in Alabama, the petitioner unsuccessfully sought habeas corpus relief in a California court because he was in "neither actual nor constructive state custody as a result of the 1989 conviction." *Id.* at 1077.

Villa and *Sodersten* stand for the obvious and simple proposition that to meet the state custody jurisdictional requirement for habeas corpus relief in the criminal context, the petitioner must challenge California's custody of the individual in question. Significantly, they do not even mention privately detained individuals proceeding under habeas corpus and cannot be interpreted to extend the jurisdictional requirement to private detention contexts. Child custody cases in California demonstrate the use of habeas corpus in private detentions. For example, in *In re Kyle* (1947) 77 Cal.App.2d 634, 636, a father filed a habeas corpus petition to recover the custody of his child from the mother, after the mother "refused to return the child" following a visit. The child was neither in actual nor constructive custody of the state of California; she was privately detained by her mother. Yet, the court still issued the order to show cause and ultimately granted the petition, ordering the child delivered to the father. *Id.* at 641. See also *In re Barr on behalf of Barr* (1952) 39 Cal.2d 25, 26 (a mother, whose child custody decree was modified in favor of her ex-husband, successfully brought a habeas corpus action to recover her child from the possession of her ex-husband pending an appeal of said custody decree modification); *In re Paul W.* (2007) 151 Cal.App.4th 37, 67 (Bamattre-Manoukian, P.J., concurring) (explaining that a writ of habeas corpus can be brought "in a variety of circumstances," including when the child or children are "under the custody of the social services agency, or . . . as was the case here with the petitioner's daughters, in the custody of the other parent") (emphasis added).

Accordingly, a privately detained individual does not (since they cannot) need to allege state control of his or her person to challenge their unlawful restraint, as instructed by the unambiguous language of Cal. Penal Code § 1473(a), *Somerset*, *Queen of the Bay*, *Mason Case*, and the history of habeas corpus. In the history of California, the Superior Court is the *only* court that has denied a habeas corpus petition because it challenges a private detention.[15]

5. The Superior Court's decision violates California's Suspension Clause

The Superior Court's order, which limits the jurisdictional reach of habeas corpus to "actual or constructive state custody," *In re NhRP* at 2, violates California's Suspension Clause because it effectively prohibits the use of habeas corpus to challenge private detentions, thereby restricting the permissible reach of the Great Writ. The privilege of the writ of habeas corpus is enshrined in the California Constitution through the Suspension Clause. Article 1, § 11 of the Constitution provides that "[h]abeas corpus may not be suspended unless required by public safety in cases of rebellion or invasion." This clause has been enshrined in the state constitution since the state's founding without modification, *Clark*, 5 Cal.4th at 764 n.2, and "guarantees the right to habeas corpus." *In re Cook* (2019)

[15] The Superior Court also cited *In re Williams* (2015) 241 Cal.App.4th 738, which is likewise inapposite as it concerned an individual detained by a governmental entity.

7 Cal.5th 439, 452; *In re Estevez* (2008) 165 Cal.App.4th 1445, 1461 (California Suspension Clause guarantees the "right to file a petition for a writ of habeas corpus").

Like the California Suspension Clause, the terms of the similarly worded federal suspension clause "necessarily imply judicial action. In England, all the higher courts were open to applicants for the writ, and it is hardly supposable that . . . any [American] court would be, intentionally, closed to them."[16] *Ex parte Yerger* (1868) 75 U.S. 85, 95-6. Those applicants include petitioners "placed in physical confinement by executive direction alone, or by order of the court, <u>or even by private parties</u>." *Preiser*, 411 U.S. at 484 (citations omitted) (emphasis added). Indeed, "the use of habeas corpus to secure release from unlawful physical confinement, whether judicially imposed <u>or not</u>, was thus an integral part of our common-law heritage," and "was given explicit recognition in the Suspension Clause of the [federal] Constitution." *Id.* at 485 (emphasis added). "[T]he Suspension Clause is not merely a technical regulation of the exercise of emergency powers, but a fundamental guarantee of the availability of a judicial remedy for unlawful detention." Gerald L. Neuman, *The Habeas Corpus Suspension Clause After* Boumediene v. Bush, 110 COLUM. L. REV. 537, 615 (2010).[17]

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[16] See *In re Estevez*, 165 Cal.App.4th at 1461 (noting California's Suspension Clause and the federal suspension clause are "similarly worded"); see also 6 Witkin, Cal. Crim. Law 4th Crim Writs § 10 (2022) ("Habeas corpus . . . is a process guaranteed by both U.S. and California Constitutions to obtain prompt judicial release from illegal restraint. (See Cal. Const., Art. I, § 11 ['Habeas corpus may not be suspended unless required by public safety in cases of rebellion or invasion']; U.S. Const., Art. I, § 9, cl. 2 [substantially same language].)").

[17] The protections provided by the Suspension Clause are of such importance that Founding Father Patrick Henry "referred to the Suspension Clause as an 'exception' to the 'power

The California Suspension Clause is no less protective of the right to habeas corpus than its federal counterpart. Requiring actual or constructive state custody to prosecute a writ of habeas corpus would effectively suspend the use of habeas corpus in private detention disputes. Accordingly, as this case does not arise at a time where "public safety" is at stake due to a "rebellion or invasion," the Superior Court's restriction on a permissible use of the Great Writ is a direct violation of the California Constitution.

B. This Court must recognize Amahle, Nolwazi, and Mabu's common law right to bodily liberty protected by habeas corpus because of their autonomy and extraordinary cognitive complexity

1. The question before the Court is whether it should recognize Amahle, Nolwazi, and Mabu's common law right to bodily liberty protected by habeas corpus and not whether the elephants are "persons"

Cal. Penal Code §1473(a) provides that "[a] person unlawfully imprisoned or restrained of their liberty, under any pretense, may prosecute a writ of habeas corpus to inquire into the cause of such imprisonment or restraint." Consistent with the fact that habeas corpus is a common law writ, "person" is undefined by the procedural statute.[18]

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given to Congress to regulate courts.'" *Boumediene v. Bush*, 553 U.S. 723, 743 (2008) (citation omitted).

[18] This case is not a matter of statutory interpretation or legislative intent. Even in statutory interpretation cases where the term "person" is undefined, courts have not limited the meaning of "person" to the legislative intent at the time the statute was enacted. For example, the Supreme Court of Connecticut held that the term "persons" in a statute regarding the admission of attorneys to the bar included women and Black men, even though no legislator at the time contemplated the statute applying to those individuals. *In re Hall* (1882) 50 Conn. 131. The court explained: "All progress in social matters is gradual. We pass almost imperceptibly from a state of public opinion that utterly condemns some course of action to one that strongly approves it. . . . When the statute we are now considering was passed it probably never entered the mind of a single member of the

This Court's recognition of the elephants' common law right to bodily liberty protected by habeas corpus *necessarily* makes them "persons" for purposes of California habeas corpus procedural statutes. This is because a "person is any being whom the law regards as capable of rights or duties," and "[a]ny being that is so capable is a person, whether a human being or not." *Person*, BLACK'S LAW DICTIONARY (11th ed. 2019) (quoting JOHN SALMOND, JURISPRUDENCE 318 (10th ed. 1947)) (emphasis added); see also IV ROSCOE POUND, JURISPRUDENCE 197 (1959) ("The significant fortune of legal personality is the capacity for rights."). On this well-established understanding of personhood, the term "person" is merely a designation that attaches to any individual or entity with a legal right. Accordingly, "animals may conceivably be legal persons" if they possess legal rights, and there may be "systems of Law in which animals have legal rights." JOHN CHIPMAN GRAY, THE NATURE AND SOURCES OF THE LAW 42-43 (2d ed. 1963); see also Ex. 2, ¶¶ 166-174 (the elephants are "persons" for purposes of habeas corpus).

In 2018, the NhRP sought leave from the New York Court of Appeals to consider a habeas corpus case involving two chimpanzees, Tommy and Kiko. As in this case, the NhRP argued for the recognition of Tommy and Kiko's common law right to bodily liberty protected by habeas corpus based on their uncontroverted autonomy and extraordinary cognitive complexity. Although the motion for leave to appeal was denied, a judge on the Court of Appeals issued a separate opinion discussing the case's merits—the first time in

legislature that black men would ever be seeking for admission under it. Shall we now hold that it cannot apply to black men?" *Id.* at 131-33.

the court's 176-year history.[19] See generally *Matter of Nonhuman Rights Project, Inc. v. Lavery* (2018) 31 N.Y.3d 1054 (hereafter *Tommy*). The unexpected concurring opinion was authored by Judge Eugene Fahey, and explained "that denial of leave to appeal [was] not a decision on the merits of [NhRP's] claims." *Id.* at 1056 (Fahey, J., concurring). It also presciently underscored that the "question will have to be addressed eventually. Can a nonhuman animal be entitled to release from confinement through the writ of habeas corpus?" *Id.* Although Judge Fahey did not answer that question outright, he provided guidance on what the substantive analysis should, and should not, entail.

Judge Fahey began his opinion by strongly refuting how the appellate division defined the term "person" in the habeas corpus procedural statute governing Tommy and Kiko's petition. He noted that the statute (as is the case in California) does not define the term,[20] and criticized the appellate division for concluding that chimpanzees are not "persons" because of their inability to "bear any legal duties, submit to societal responsibilities or be held legally accountable for their actions.'" *Id.* at 1057 (internal quotations omitted). Judge Fahey observed that even if "nonhuman animals cannot bear

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[19] Rob Rosborough, *For the First Time Court of Appeals Issues a Separate Opinion While Denying Leave to Appeal*, NEW YORK APPEALS (May 9, 2018), https://bit.ly/3jKqmZn.

[20] See CPLR § 7002(a) ("A person illegally imprisoned or otherwise restrained of his liberty . . . may petition without notice for a writ of habeas corpus to inquire into the cause of such detention and for deliverance."). "The drafters of the CPLR made no attempt to specify the circumstances in which habeas corpus is a proper remedy. This was viewed as a matter of substantive law." Vincent Alexander, *Practice Commentaries*, MCKINNEY'S CPLR 7001. See also Cal. Penal Code § 1473(a) ("A person unlawfully imprisoned or restrained of their liberty, under any pretense, may prosecute a writ of habeas corpus to inquire into the cause of the imprisonment of restraint.").

duties, the same is true of human infants or comatose human adults, yet no one would suppose that it is improper to seek a writ of habeas corpus on behalf of one's infant child." *Id.* at 1057 (internal quotations and citations omitted); see also Ex. 2, ¶¶ 175-179. This was a crucial assessment because restricting the Great Writ, or personhood, to only those individuals who can undertake legal responsibilities would abolish long-held legal protections for the most vulnerable among us.[21]

Moreover, Judge Fahey explained that the appellate division's erroneous "conclusion that a chimpanzee cannot be considered a 'person' and is not entitled to habeas relief is in fact based on nothing more than the premise that a chimpanzee is not a member of the human species." *Id.* (citation omitted). While affirming the principle that "all human beings possess intrinsic dignity and value," Judge Fahey urged that "in elevating our species, we should not lower the status of other highly intelligent species." *Tommy*, 31 N.Y.3d at 1057.

Judge Fahey then offered a rational way to evaluate whether a chimpanzee is entitled to habeas corpus relief without focusing on the undefined term "person." He said:

> The better approach in my view is to ask not whether a chimpanzee fits the definition of a person or whether a chimpanzee has the same rights and duties as a human being, but instead whether he or she has the right to liberty protected by habeas corpus. That question, one of

[21] Indeed, it is this erroneous "duties and responsibilities" argument that some courts have used to justify denying nonhuman animals the ability to seek legal protection through the use of habeas corpus. See Ex. 2, ¶¶ 176-194 (refuting this argument at length). See also *Breheny*, 38 N.Y.3d at 628-29 (Rivera, J. dissenting) ("I conclude that history, logic, justice, and our humanity must lead us to recognize that if humans without full rights and responsibilities under the law may invoke the writ to challenge an unjust denial of freedom, so too may any other autonomous being, regardless of species.").

> precise moral and legal status, is the one that matters here. Moreover, the answer to that question will depend on our assessment of the intrinsic nature of chimpanzees as a species.

Id. at 1057. Rather than focus on the definition of "person," Judge Fahey suggests that a court should determine whether the nonhuman animal has the right to liberty by assessing the intrinsic nature of the species. In Tommy and Kiko's case, had the court recognized their right to liberty protected by habeas corpus, the chimpanzees would have *necessarily* become legal persons. Thus, initially determining whether a nonhuman animal is a "person" for purposes of the procedural statute is not the appropriate way to decide cases that deal with nonhuman animals seeking habeas corpus relief.

Instead, the appropriate way to evaluate habeas corpus cases brought on behalf of nonhuman animals is to assess the intrinsic nature of the species. The question then becomes how a court conducts such an assessment to determine whether a nonhuman animal has the common law right to bodily liberty protected by habeas corpus, as all humans are presumed to have. *Id.* Judge Fahey answered the question by looking to the science, i.e., to the affidavits submitted by eminent primatologists. He said:

> The record before us in the motion for leave to appeal contains unrebutted evidence, in the form of affidavits from eminent primatologists, that chimpanzees have advanced cognitive abilities, including being able to remember the past and plan for the future, the capacities of self-awareness and self-control, and the ability to communicate through sign language. Chimpanzees make tools to catch insects; they recognize themselves in mirrors, photographs, and television images; they imitate others; they exhibit compassion and depression when a community member dies; they even display a sense of humor.

Id. at 1057-58. Accordingly, the primatologists were able to show that autonomy and extraordinary cognitive complexity are not exclusive to humans.[22] Having accepted that chimpanzees are autonomous and extraordinarily cognitively complex beings, Judge Fahey recognized that whether a chimpanzee can use habeas corpus to challenge her imprisonment is "not merely a definitional question, but a deep dilemma of ethics and policy that demands our attention." *Id*. at 1058. He further remarked:

> To treat a chimpanzee as if he or she had no right to liberty protected by habeas corpus is to regard the chimpanzee as entirely lacking independent worth, as a mere resource for human use, a thing the value of which consists exclusively in its usefulness to others. Instead, we should consider whether a chimpanzee is an individual with inherent value who has the right to be treated with respect. . . . The reliance on a paradigm that determines entitlement to a court decision based on whether the party is considered a "person" or relegated to the category of a "thing" amounts to a refusal to confront a manifest injustice.

Id. at 1058-59 (citations omitted). Judge Fahey concluded his opinion with a striking personal reflection admitting that he has "struggled with whether" it was the right decision for the New York Court of Appeals to deny the NhRP's motion for leave to appeal in a previous chimpanzee case. Speaking broadly, he opined:

> The issue whether a nonhuman animal has a fundamental right to liberty protected by the writ of habeas corpus is profound and far-reaching. It speaks to our relationship with all the life around us. Ultimately, we will not be able to ignore it. While it may be arguable that a chimpanzee is not a "person," there is no doubt that it is not merely a thing.

[22] Autonomy and extraordinary cognitive complexity are also shared by elephants such as Amahle, Nolwazi, and Mabu. Ex. 2, ¶¶ 31-86.

Id. at 1059.

Taken as a whole, Judge Fahey's reflections and accompanying findings provide a glimpse into how a superb common law judge intellectually and emotionally confronts novel and important legal questions over time. His concurring opinion provides a step-by-step guide for confronting novel questions about nonhuman animals seeking relief from their respective imprisonments through the use of habeas corpus. To wit; (1), rather than determine if the nonhuman animal is included within the umbrella of the undefined term "person," Judge Fahey suggests assessing the species' intrinsic nature to determine whether the nonhuman animal has the common law right to bodily liberty protected by habeas corpus; (2), to make such an assessment one must look at the science, which typically takes the form of affidavits from leaders in the field of nonhuman animal cognition and behavior; (3), if the science establishes that the species is autonomous and extraordinarily cognitively complex, then the court must apply normative considerations like ethics and policy.

At the third step, when normative considerations are applied to a nonhuman animal's proven autonomy and extraordinary cognitive complexity, a court must recognize their common law right to bodily liberty protected by habeas corpus. Therefore this Court must recognize Amahle, Nolwazi, and Mabu's right to bodily liberty. See Ex. 2, ¶¶ 111-135 (considerations for changing the common law, including science, justice, reason, ethics, policy, etc); *id.* at ¶¶ 136-142 (liberty argument); *id.* at ¶¶ 143-162 (equality argument).

2. **Two judges on the New York Court of Appeals found that an elephant can challenge her imprisonment through a petition for a writ of habeas corpus based on principles of justice and liberty**

   a. **As a matter of justice, this Court must recognize Amahle, Nolwazi, and Mabu's common law right to bodily liberty protected by habeas corpus**

Elephants are autonomous and extraordinarily cognitively complex beings, and the deprivation of their bodily liberty through their unnatural imprisonment at the Fresno Zoo is unjust. Defined as "[t]he quality of being fair or reasonable," *Justice*, BLACK'S LAW DICTIONARY (11th ed. 2019) (hereafter BLACK'S), justice is a fundamental principle of the common law. The common law is "the embodiment of broad and comprehensive unwritten principles, inspired by natural reason and an innate sense of justice." *Rodriguez v. Bethlehem Steel Corp.* (1974) 12 Cal.3d 382, 393 (internal quotations omitted) (hereafter *Rodriguez*). Justice requires that the common law stay abreast of society's evolving norms.[23] *Rodriguez*, 12 Cal.3d at 394 ("'Whenever an old rule is found unsuited to present conditions or unsound, it should be set aside and a rule declared which is in harmony with those conditions and meets the demands of justice.'") (citation omitted); *Katz v. Walkinshaw* (1903) 141 Cal. 116, 123 (hereafter *Katz*) ("The true doctrine is that the common law by its own principles adapts itself to varying conditions, and modifies its own rules so as to serve the ends of justice under the different circumstances.").[24] This is

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[23] See Ex. 2, ¶¶ 123-135 (progress of society).

[24] "In the common-law system, there is often not a sharp boundary between doctrine and policy – that is, between existing law ('what do the cases say?') and an analysis of the social effects of the law ('what legal rule would be a good idea in our society?'). In fact, considerations of policy – along with other types of analysis, like considerations of

because the "law cannot be divorced from morality in so far as it clearly contains . . . the notion of right to which the moral quality of justice corresponds." *Justice*, BLACK'S (quoting PAUL VINOGRADOFF, COMMON SENSE IN LAW 19-20 (H.G. Hanbury ed., 2d ed. 1946)).

In *Breheny*, Judge Wilson understood that, "[a]t its core, this case is about whether society's norms have evolved such that elephants like Happy should be able to file habeas petitions to challenge unjust confinements." 38 N.Y.3d at 587 (Wilson, J., dissenting). He added, "[w]hether an elephant could have petitioned for habeas corpus in the 18th century is a different question from whether an elephant can do so today because we know much more about elephant cognition, social organization, behaviors and needs than we did in past centuries, and our laws and norms have changed in response to our improved knowledge of animals." *Id.* at 603. "What was unknown about animal cognizance and sentience a century ago is particularly relevant to whether Happy should be able to test her confinement by way of habeas corpus, because we now have information suggesting that her confinement may be cruel and unsuited to her well-being." *Id.* at 607. That information was informed by the expert affidavits filed on Happy's behalf, which established that elephants are autonomous and extraordinarily cognitively complex beings with complex biological, psychological, and social needs. Judge Wilson concluded: "Happy has very

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morality and experiential knowledge – are one of the primary motivations for the creation and ongoing development of legal doctrine." SHAWN BAYERN, AUTONOMOUS ORGANIZATIONS 135-36 (2021) (citing MELVIN EISENBERG, THE NATURE OF THE COMMON LAW 14-19 (1988)).

substantial cognitive, emotional and social needs and abilities," and "those qualities coupled with the circumstances of her particular confinement establish a prima facie case that her present confinement is unjust." *Id*. at 626.

The same injustice led Judge Rivera to declare, "[w]e are here presented with an opportunity to affirm our own humanity by committing ourselves to the promise of freedom for a living being with the characteristics displayed by Happy." *Id.* at 628 (Rivera, J., dissenting). Society's improved knowledge of elephants has helped it evolve to the point where a state high court judge found that "a court may consider whether to issue the writ because it is unjust to continue [an elephant]'s decades-long confinement in an unnatural habitat where she is held for the sole purpose of human entertainment." *Id*. That same judge concluded:

> Captivity is anathema to Happy because of her cognitive abilities and behavioral modalities—because she is an autonomous being. Confinement at the Zoo is harmful, not because it violates any particular regulation or statute relating to the care of elephants, but because an autonomous creature such as Happy suffers harm by the mere fact that her bodily liberty has been severely—and unjustifiably—curtailed. Happy's confinement by human beings has never been intended to benefit her but serves only to entertain and satisfy human curiosity, regardless of the loss of freedom to Happy. She is held in an environment that is unnatural to her and that does not allow her to live her life as she was meant to: as a self-determinative, autonomous elephant in the wild. Her captivity is inherently unjust and inhumane. It is an affront to a civilized society, and every day she remains a captive—a spectacle for humans—we, too, are diminished.

Id. at 642. See also Ex. 2, ¶ 118 (The Los Angeles Superior Court recognized that "[c]aptivity is a terrible existence for any intelligent, self-aware species, which the undisputed evidence shows elephants are. To believe otherwise, as some high-ranking zoo employees appear to believe, is delusional.").

Amahle, Nolwazi, and Mabu's imprisonment by Respondents at the Fresno Zoo is unjust. Held in a wholly unnatural environment, deprived of the ability to travel, forage, communicate, socialize, plan, live, choose, and thrive as elephants should—in other words, to be autonomous—they are not living a life that is anything close to acceptable for an elephant. Jacobs Decl. ¶¶ 19-21; Lindsay Decl.¶¶ 53-71. "In captivity, animals have an almost complete lack of control over their environment," resulting in "chronic stress" that tends to inhibit the immune system. Jacobs Decl. ¶ 15. Such stress from captivity "often fosters learned helplessness and conditioned defeat, which involves the amygdala and broad dysregulation of the neurotransmitter serotonin." *Id.* at ¶ 16 (citations omitted). The injustice of the elephants' imprisonment is further made manifest by the exhibition of stereotypical behavior in Amahle and Nolwazi.[25] Jacobs Decl. ¶ 21(h). "[E]lephants, in their natural habitat, have never been noted to have exhibit such stereotypies, which reflect underlying (abnormal) disruption of neural mechanisms." *Id*. at ¶17. "[T]he existence of stereotypies is a direct reflection of the dysregulation of motor control circuitry in the brain, that is, a form of brain damage." *Id*. at ¶ 21(h).

The time has come for California common law to reflect the modern understanding that elephants are autonomous and extraordinarily cognitively complex beings. See *Nestle*

[25] The NhRP has been unable to obtain video footage of Mabu since his arrival at the Fresno Zoo.

*v. City of Santa Monic*a (1972) 6 Cal.3d 920, 924 (The common law must reflect "knowledge as deep as the science . . . of the [] day.") (citation omitted). Based on this understanding, and the common law principles espoused by *Rodriguez* and *Katz*, this Court must conclude that the deprivation of Amahle, Nolwazi, and Mabu's bodily liberty through their wholly unnatural environment at the Fresno Zoo is unjust. This Court should also look to the wisdom of Judge Wilson and Judge Rivera who have had the opportunity to analyze the very questions present in this case. Accordingly, it is evident that the *only* way to remedy the injustice of the elephants' imprisonment at the Fresno Zoo is to recognize their common law right to bodily liberty protected by habeas corpus so they can spend the rest of their lives in an environment that will respect their autonomy, like their native Africa (if possible) or an elephant sanctuary. See *Breheny*, 38 N.Y.3d at 580 (Wilson, J., dissenting) ("the history of the Great Writ demonstrates that courts have used and should use it to enhance liberty when captivity is unjust, even when the captor has statutory or common law rights authorizing captivities in general"); *id*. at 629 (Rivera, J., dissenting) ("the Great Writ ensures the fundamental right to be free from unjust imprisonment by requiring judicial review of the proffered justification for confinement").[26]

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[26] See also BENJAMIN CARDOZO, THE NATURE OF THE JUDICIAL PROCESS 150 (1921) ("I think that when a rule, after it has been duly tested by experience, has been found to be inconsistent with the sense of justice . . . there should be less hesitation in frank avowal and full abandonment."); Jack B. Weinstein, *Every Day Is a Good Day for a Judge to Lay Down His Professional Life for Justice*, 32 FORDHAM URB. L.J. 131, 131 (2004) (The "moral judge" "embraces his professional life most fully when he is prepared to fight—and be criticized or reversed—in striving for justice.").

Confining elephants in an unnatural environment that prevents them from living the life they were meant to—as self-determinative, autonomous beings in the wild—is "inherently unjust and inhumane." *Id.* at 642 (Rivera, J., dissenting). "Such an autonomous animal has a right to live free of an involuntary captivity imposed by humans, that serves no purpose other than to degrade life." *Id*. at 649.

b. As a matter of liberty, this Court must recognize Amahle, Nolwazi, and Mabu's common law right to bodily liberty protected by habeas corpus

"Anglo American law starts with the premise of thorough-going self determination." *Thor v. Superior Court* (1993) 5 Cal.4th 725, 736 (hereafter *Thor*) (internal quotations and citation omitted); see also Ex. 2, ¶¶ 136-142 (liberty argument). "No right is held more sacred, or is more carefully guarded, by the common law, than the right of every individual to possession and control of his own person, free from all restraint or interference of others, unless by clear and unquestionable authority of law . . . The right to one's person may be said to be a right of complete immunity: to be let alone." *Id.* at 731 (quoting *Union Pac. Ry. Co. v. Botsford* (1891) 141 U.S. 250, 251). Thus, "the role of the state is to ensure a maximum of individual freedom of choice and conduct." *Id.* at 740 (internal quotations and citation omitted).

Autonomy anchors the common law right to bodily liberty. *Id*. at 734-35 (noting the "'long-standing importance in our Anglo-American legal tradition of personal autonomy and the right of self-determination.' . . . As John Stuart Mill succinctly stated, 'Over himself, over his own body and mind, the individual is sovereign.'") (citations omitted). In California, the protection given to an individual's autonomy under the common law is of such supreme importance that a competent individual may choose to reject lifesaving medical treatment and die. See, e.g., *Conservatorship of Wendland* (2001) 26 Cal.4th 519, 531-32 (*Tho*r "held that the common law right of a competent adult to refuse life-sustaining treatment extends even to a state prisoner . . . . [W]e based our conclusion that a prisoner had the right to refuse life-sustaining treatment solely on the common law."). While elephants may not be capable of making the types of decisions articulated in *Thor*, they are capable of making decisions concerning their bodily liberty that habeas corpus protects. For example, they can "discuss" with other elephants where they wish to go, and when, and choose what they want to do, and with whom.[27]

The Great Writ of habeas corpus, which safeguards the right to bodily liberty, can protect the autonomy of humans and nonhuman animals who have been unjustly confined. *See Breheny*, 38 N.Y.3d at 632 (Rivera, J., dissenting) ("[T]he Great Writ serves to protect against unjust captivity and to safeguard the right to bodily liberty," and "those protections are not the singular possessions of human beings."). In *Tommy*, Judge Fahey recognized that autonomy lies at the heart of whether a chimpanzee "has the right to liberty protected by habeas corpus," noting "the answer . . . will depend on our assessment of the intrinsic nature of chimpanzees as a species." 31 N.Y.3d at 1057 (Fahey, J. concurring). As he observed, based on the scientific evidence that the NhRP presented, chimpanzees are "autonomous, intelligent creatures." *Id*. at 1059.

[27] Ex. 2, Poole Aff. ¶ 44.

In *Breheny*, Judge Rivera concluded that the NhRP "made the case for Happy's release and transfer to an elephant sanctuary, and the writ should therefore be granted," based on the record developed below in which the NhRP "submitted affidavits from several internationally renowned elephant experts to establish Happy's autonomy and the inherent harm of her captivity in the Zoo." 38 N.Y.3d at 634. Similarly, Judge Wilson concluded: "Happy has very substantial cognitive, emotional and social needs and abilities," and "those qualities coupled with the circumstances of her particular confinement establish a prima facie case that her present confinement is unjust. That showing is consistent with the kind of showings made by abused women and children and enslaved persons." *Id.* at 626 (Wilson, J., dissenting).[28]

Accordingly, to safeguard Amahle, Nolwazi, and Mabu's autonomy and extraordinary cognitive complexity, this Court, as a matter of liberty, must recognize their common law right to bodily liberty protected by habeas corpus and order them freed.

PRAYER FOR RELIEF

The NhRP respectfully requests that this Court

1. Issue an Order to Show Cause why relief should not be granted;

[28] These conclusions aligned with the trial court's findings in Happy's case. Although the trial court felt "[r]egrettably" bound by prior precedent to rule against Happy, it recognized her as "an intelligent, autonomous being who should be treated with respect and dignity," and found the NhRP's arguments "extremely persuasive for transferring Happy from her solitary, lonely one-acre exhibit at the Bronx Zoo, to an elephant sanctuary on a 2300 acre lot." *The Nonhuman Rights Project v. Breheny* (N.Y. Sup. Ct. 2020) 2020 WL 1670735 *9, *10.

2. Grant habeas corpus relief and order that Amahle, Nolwazi, and Mabu be discharged from their unlawful imprisonment at the Fresno Zoo;
3. Order Amahle, Nolwazi, and Mabu transferred to a rewilding facility, or order them transferred to an appropriate elephant sanctuary if rewilding is not viable;
4. Grant all other relief necessary for the just resolution of this case.

February 14, 2023

Respectfully submitted,

Monica L. Miller
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CA Bar: 288343 / DC Bar: 101625
and
Elizabeth Stein*
**Pro hac vice* pending
Jake M. Davis*
**Pro hac vice* pending
Attorneys for Petitioner

VERIFICATION

I, Monica Miller, declare as follows:

I am an attorney admitted to practice law in the State of California. I am an attorney for Petitioner Nonhuman Rights Project, Inc. on behalf of Amahle, Nolwazi, and Mabu and am authorized to file this Appellate Petition for Writ of Habeas Corpus on their behalf.

Amahle, Nolwazi, and Mabu are imprisoned at the Fresno Zoo; my office is in Novato, California. For this reason, I am making this verification on their behalf.

I have read the foregoing Appellate Petition for Writ of Habeas Corpus and the accompanying Memorandum of Points and Authorities in Support of the Appellate Petition and believe the allegations therein are true.

I certify under penalty of perjury under the laws of California and of the United States that the foregoing is true and correct.

February 14, 20223

Monica L. Miller

CERTIFICATE OF WORD COUNT

I certify that the foregoing Petition for a Common Law Writ of Habeas Corpus, Memorandum of Points and Authorities is in compliance with the requirements of California Rules of Court, rule 8.204(c)(l). The petition contains approximately 13391 words, calculated employing the Microsoft Word word count function, including footnotes and excluding table of contents, table of authorities and this certification page.

February 14, 2023

Respectfully submitted,

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PROOF OF SERVICE

STATE OF CALIFORNIA)
) ss.
COUNTY OF LOS ANGELES)

I am employed in the County of Los Angeles, State of California. I am over the age of eighteen (18) years and not a party to the within action; my business address is: 811 Wilshire Blvd., Ste 900, Los Angeles, CA 90017. On February 14, 2023 I served **PETITION FOR A COMMON LAW WRIT OF HABEAS CORPUS, MEMORANDUM OF POINTS AND AUTHORITIES, AND EXHIBITS** on the interested parties in this action by placing a true copy thereof enclosed in a sealed envelope addressed as follow and also I electronically served this document on the interested parties with the listed emails in this action by electronic service Pursuant to CRC 2.251. Based on the parties to accept electronic service, I caused the documents to be sent to the persons at the electronic service addresses listed below for each party.

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FRESNO SUPERIOR COURT
Hon. Mark Cullers, Judge
1100 Van Ness Avenue, Dept 404
Fresno, CA 93724
(by U.S. Mail)

I declare under penalty of perjury under the laws of the State of California that the above is true and correct. Executed on February 14, 2023, at Los Angeles, California.

_____Fernando Mercado______ /s/ Fernando Mercado

PRINT NAME SIGNATURE

EXHIBIT 1

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CORPORATION and JON FORREST DOHLIN

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF FRESNO

NONHUMAN RIGHTS PROJECT, INC., on behalf of Amahle, Nolwazi, and Vusmusi, individuals,

Petitioner,

v.

FRESNO'S CHAFFEE ZOO CORPORATION, and JON FORREST DOHLIN, in his official capacity as Chief Executive Officer & Zoo Director of the Fresno Chaffee Zoo,

Respondents.

Case No. 22CRWR686796

NOTICE OF ENTRY OF ORDER

TO ALL PARTIES AND THEIR COUNSEL OF RECORD:

PLEASE TAKE NOTICE that on November 15, 2022, the Court entered an Order on Petitioner's Writ of Habeas Corpus. A true and correct copy is attached as **Exhibit A**.

DATED: November 16, 2022

HANSON BRIDGETT LLP

By: *s/ David C. Casarrubias*

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DAVID C. CASARRUBIAS
Attorneys for Respondents
FRESNO'S CHAFFEE ZOO
CORPORATION and JON FORREST DOHLIN

EXHIBIT A

FILED

NOV 15 2022

FRESNO COUNTY SUPERIOR COURT
By ____________

SUPERIOR COURT OF CALIFORNIA, COUNTY OF FRESNO

CENTRAL DIVISION

In re Nonhuman Rights Project, Inc., on behalf of Amahle, Nolwazi, and Vusmusi, Petitioners, On Habeas Corpus.	No. 22CRWR686796 Dept. 62 ORDER

Having considered the petition for writ of habeas corpus, initially filed with the Superior Court of California, County of San Francisco on May 3, 2022, transferred to this Court on July 11, 2022, filed in this Court as a petition for writ of mandate on August 15, 2022, and refiled as a petition for writ of habeas corpus in this Court on October 21, 2022, the Court finds that Petitioner has not stated a prima facie case for relief.

In the instant petition, the Nonhuman Rights Project, Inc. requests that the Court issue a writ of habeas corpus regarding three African elephants, Amahle, Nolwazi, and Vusmusi, who are alleged to be unlawfully imprisoned and restrained of their liberty at the Fresno Chaffee Zoo by the Fresno's Chaffee Zoo Corporation and its Chief Executive Officer and Zoo Director, Jon Forrest Dohlin. (Petition for Writ of Habeas Corpus, p. 15, lines 5-11.)

COUNTY OF FRESNO
Fresno, CA

However, "in order to satisfy jurisdictional requirements under California law, an individual must be in actual or constructive state custody at the time he or she files a petition for writ of habeas corpus." (*In re Sodersten* (2007) 146 Cal.App.4th 1163, see *People v. Villa* (2009) 45 Cal.4th 1063, 1068-1074.)

Initially, the Court notes that, in the instant petition, the Nonhuman Rights Project, Inc. does not allege that any of the named Respondents, the Fresno's Chaffee Zoo Corporation or Jon Forrest Dohlin, are either a state or local governmental entity or work for, or on behalf of, a state or local governmental entity. (Petition for Writ of Habeas Corpus, p. 26, lines 12-16 [describing the Fresno's Chaffee Zoo Corporation as a "501(c)(3) non-profit corporation incorporated in the State of California" and Jon Forrest Dohlin as the "Chief Executive Officer & Zoo Director of the Fresno Zoo"].)

Nevertheless, "[t]he critical factor in determining whether a petitioner is in actual or constructive state custody … is not necessarily the name of the governmental entity signing the paycheck of the custodial officer in charge,' but "whether [the petitioner's custody] is currently authorized in some way by the State of California." (*Villa, supra,* 45 Cal.4th 1063, 1073.) In this case, the Nonhuman Rights Project, Inc. does not allege that any of the three elephants are currently present at the Fresno Chaffee Zoo due to any actual custodial sentence imposed by a trial court in the State of California, a constructive substitute for an actual custodial sentence (such as parole or probation), or "some official state action (like a detainer hold) connected to a person's custodial status." (*Id.* at p. 1074.) Therefore, the Nonhuman Rights Project, Inc. has failed to establish that any of the three elephants were in the actual or constructive custody of the State of California at the time the instant habeas corpus petition was filed. Consequently, the petition "does not meet the habeas corpus jurisdictional requirements of California law." (*In re Williams* (2015) 241 Cal.App.4th 738, 745.)

Accordingly, the petition for writ of habeas corpus is denied.

DATED this 15TH day of November, 2022.

Arlan L. Harrell

Arlan L. Harrell
Judge of the Superior Court

PROOF OF SERVICE

NonHuman Rights Project, Inc., et al. v. FRESNO'S CHAFFEE ZOO CORPORATION, and JON FORREST DOHLIN, et al.

STATE OF CALIFORNIA, COUNTY OF CONTRA COSTA

At the time of service, I was over 18 years of age and not a party to this action. I am employed in the County of Contra Costa, State of California. My business address is 1676 N. California Blvd., Suite 620, Walnut Creek, CA 94596.

On November 16, 2022, I served true copies of the following documents described as: **NOTICE OF ENTRY OF ORDER** on the interested parties in this action as follows:

SEE ATTACHED SERVICE LIST

BY E-MAIL OR ELECTRONIC TRANSMISSION: I caused a copy of the documents to be sent from e-mail address destebanez@hansonbridgett.com to the persons at the e-mail addresses listed in the Service List. I did not receive, within a reasonable time after the transmission, any electronic message or other indication that the transmission was unsuccessful.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on November 16, 2022, at San Bruno, California.

Debbie Estebanez

SERVICE LIST
NonHuman Rights Project, Inc., et al. v. FRESNO'S CHAFFEE ZOO CORPORATION, and JON FORREST DOHLIN, et al.
Fresno Superior Court, Case No. 22CECG02471

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Attorneys for Petitioner Nonhuman Rights Project, Inc.

ELECTRONICALLY
FILED
Superior Court of California, County of San Francisco
05/03/2022
Clerk of the Court
BY: LAURA SIMMONS
Deputy Clerk

CPF-22-517751

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF SAN FRANCISCO

NONHUMAN RIGHTS PROJECT, INC., on behalf of Amahle, Nolwazi, and Vusmusi, individuals,

Petitioner,

v.

FRESNO'S CHAFFEE ZOO CORPORATION, and JON FORREST DOHLIN, in his official capacity as Chief Executive Officer & Zoo Director of the Fresno Chaffee Zoo,

Respondents.

Case No. ________________

PETITION FOR A COMMON LAW WRIT OF HABEAS CORPUS

Hearing Date:
Time:
Dept:

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"The issue whether a nonhuman animal has a fundamental right to liberty protected by the writ of habeas corpus is profound and far-reaching. It speaks to our relationship with all the life around us. Ultimately, we will not be able to ignore it. While it may be arguable that a chimpanzee is not a 'person,' there is no doubt that it is not merely a thing."

- *Matter of Nonhuman Rights Project, Inc. v. Lavery* (2018) 31 N.Y.3d 1054, 1059 (Fahey, J., concurring).

"Happy [the elephant] is an extraordinary animal with complex cognitive abilities, an intelligent being with advanced analytic abilities akin to human beings. . . . Happy is more than just a legal thing, or property. She is an intelligent, autonomous being who should be treated with respect and dignity, and who may be entitled to liberty. . . . The arguments advanced by the NhRP are extremely persuasive for transferring Happy from her solitary, lonely one-acre exhibit at the Bronx Zoo, to an elephant sanctuary on a 2300 acre lot."

- *The Nonhuman Rights Project v. Breheny* (N.Y. Sup. Ct. 2020) 2020 WL 1670735 *1, *10.

"The subject of the most important animal-rights case of the 21st century was born in Thailand during the Vietnam War. Very soon after that, a tousle-haired baby, [Happy] became trapped in human history. She was captured, locked in a cage, trucked to the coast, and loaded onto a roaring 747 that soared across the Pacific until it made landfall in the United States."

- Jill Lepore, *The Elephant Who Could Be A Person*, THE ATLANTIC (Nov. 16, 2021), https://bit.ly/3oDpw0M.

PETITION FOR COMMON LAW WRIT OF HABEAS CORPUS

Pursuant to California common law, California Penal Code Sections 1473 et seq. (hereafter Cal. Penal Code), and California Rules of Court 4.550 et seq. (hereafter Cal. Rules of Court), Petitioner, the Nonhuman Rights Project, Inc. (hereafter NhRP or Petitioner), hereby submits this Verified Petition For A Common Law Writ of Habeas Corpus (hereafter Petition) on behalf of Amahle, Nolwazi, and Vusmusi, African elephants who are unlawfully imprisoned and restrained of their liberty (hereafter unlawfully imprisoned) at the Fresno Chaffee Zoo (hereafter Fresno Zoo) by the Fresno's Chaffee Zoo Corporation, and its Chief Executive Officer & Zoo Director, Jon Forrest Dohlin, (hereafter Respondents) in the City of Fresno, California, and in support thereof, states as follows.

I. Preliminary Statement

a. Introduction

1. This case presents a question of first impression in California: should a court recognize the common law right to bodily liberty protected by habeas corpus of elephants based on their autonomy and extraordinary cognitive complexity? In another habeas corpus case brought by the NhRP, the New York Court of Appeals is considering this same issue regarding an elephant named Happy imprisoned at the Bronx Zoo. See *Matter of Nonhuman Rights Project, Inc. v. Breheny* (2021) 36 N.Y.3d 912 (hereafter *Breheny*). *Breheny* marks the first time in legal history that the highest court of any English-speaking jurisdiction will hear a habeas corpus case brought on behalf of an individual who is not human.

2. The NhRP seeks this Court's recognition of Amahle, Nolwazi, and Vusmusi's common law right to bodily liberty protected by habeas corpus, and no other right. Upon the recognition of the elephants' right, the NhRP seeks their discharge from the Fresno Zoo and

placement in an appropriate elephant sanctuary where they can exercise their autonomy and extraordinary cognitive complexity to the greatest extent possible.

3. Whether the elephants are entitled to habeas corpus is the substantive question for this Court to decide under California common law.

4. The NhRP brings the Petition in accordance with California's habeas corpus procedural statutes (Cal. Penal Code § 1473 et seq and Cal. Rules of Court 4.550 et seq.) on behalf of Amahle, Nolwazi, and Vusmusi, who are unlawfully imprisoned by Respondents at the Fresno Zoo.[1]

5. Respondents' imprisonment of Amahle, Nolwazi, and Vusmusi violates their common law right to bodily liberty protected by habeas corpus and is therefore unlawful because it deprives the elephants of their ability to meaningfully exercise their autonomy and extraordinary cognitive complexity, including the freedom to choose where to go, what to do, and with whom to be.

6. Whether Respondents are in compliance with animal welfare statutes is irrelevant to the lawfulness of the elephants' imprisonment as none of those statutes address the right to bodily liberty.

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[1] The Fresno Zoo made In Defense of Animals' ("IDA") 2021 list for the 10 Worst Zoos for Elephants in North America, since the zoo "epitomizes the saying that elephants don't live in zoos, they die in zoos. The Fresno elephants have suffered abusive transfers and kidnapping from the wild." *10 Worst Zoos for Elephants 2021*, IN DEFENSE OF ANIMALS, https://bit.ly/3L8KdKc. Three other elephants at the Fresno Zoo died between 2017 and 2019, all from zoo-related diseases or conditions. *Id.* The IDA's list focuses on zoos that are "considered the best by industry standards," and notes a new study that concludes zoo captivity is damaging to elephant brains. *Id.* "This year's list highlights that even zoos deemed to be the very best are failing elephants' bodies, minds, and spirits." *Id.*

7. The Petition "serves primarily to launch the judicial inquiry into the legality of the restraints on the petitioner's personal liberty . . . and secure the issuance of the writ." *People v. Romero* (1994), 8 Cal.4th 728, 738, as modified on denial of reh'g (Jan. 5, 1995) (internal citation omitted) (hereafter *Romero*).

8. The NhRP does not request Amahle, Nolwazi, and Vusmusi's production in court. The Petition asks that this Court issue an order to show cause requiring Respondents to justify the elephants' imprisonment. The terms "order to show cause" and "writ of habeas corpus" are used interchangeably. See, e.g., *Romero*, 8 Cal.4th at 736 ("'[T]he issue . . . shall be limited to whether a writ of habeas corpus or an order to show cause must issue before a petition for writ of habeas corpus is granted.'").

9. For the purpose of issuing the order to show cause, this Court cannot determine the merits of the Petition. This Court must assume, without deciding, that Amahle, Nolwazi, and Vusmusi have the common law right to bodily liberty protected by habeas corpus. As the NhRP makes a prima facie showing that the elephants are entitled to relief, this Court must issue the order to show cause pursuant to Cal. Rules of Court 4.551(c)(1).

10. To not issue the order to show cause would be a "refusal to confront a manifest injustice." *Matter of Nonhuman Rights Project, Inc. v. Lavery* (2018) 31 N.Y.3d 1054, 1059 (Fahey, J., concurring) (hereafter *Tommy*).

11. Only after this Court issues the order to show cause can it address the merits of the Petition. The merits are whether this Court must recognize Amahle, Nolwazi, and Vusmusi's common law right to bodily liberty protected by habeas corpus, and if so,

whether the elephants must be discharged from the Fresno Zoo and transferred to an appropriate elephant sanctuary where they can exercise their autonomy and extraordinary cognitive complexity to the greatest extent possible.

b. Jurisdictional Statement

12. No previous application for a writ of habeas corpus has been made on behalf of Amahle, Nolwazi, or Vusmusi.

13. Jurisdiction and venue are proper in this Court pursuant to Cal. Const., art. VI, § 10, Cal. Rules of Court 4.552(a), Cal. Penal Code § 1508(c), and California case law.

14. "The Supreme Court, courts of appeal, superior courts, and their judges have original jurisdiction in habeas corpus proceedings." Cal. Const., art. VI, § 10.

15. Venue is proper in this Court. "In general, a habeas corpus petition should be heard and resolved by the court in which the petition is filed." *In re Roberts* (2005) 36 Cal.4th 575, 585, as modified (Aug. 24, 2005) (hereafter *Roberts*); see also Cal. Rules of Court 4.552(a) ("Except as set forth in subdivision (b)(2), the petition should be heard and resolved in the court in which it is filed."). "[W]hen a petitioner has complied with pertinent rules, the superior court in which the petition is presented should file and review the allegations of the petition in order to determine whether it states a prima facie case for relief." *Roberts*, 36 Cal.4th at 583.

16. This Court should not transfer venue. "[A] petition for writ of habeas corpus should not be transferred to another court unless a substantial reason exists for such transfer." *Id.* at 585. Substantial reasons include those mentioned in Cal. Rules of Court 4.552(b)(2), which provides:

> (A) If the petition challenges the terms of a judgment, the matter may be transferred to the county in which judgment was rendered. (B) If the petition challenges the conditions of an inmate's confinement, it may be transferred to the county in which the petitioner is confined. . . . (C) If the petition challenges the denial of parole or the petitioner's suitability for parole and is filed in a superior court other than the court that rendered the underlying judgment, the court in which the petition is filed should transfer the petition to the superior court in which the underlying judgment was rendered.

17. There is no substantial reason for transferring the Petition. The Petition does not challenge a judgment, a parole determination, or the conditions of Amahle, Nolwazi, and Vusmusi's imprisonment. Rather, it challenges the legality of the elephants' imprisonment itself and seeks their discharge from the Fresno Zoo. Moreover, the elephants will not be produced in court and all the relevant facts can be introduced and contested through affidavits.

18. In another habeas corpus case in which the NhRP filed a petition outside the county of imprisonment, a court issued an order to show cause for two chimpanzees and rejected the New York Attorney General's transfer request. *Matter of Nonhuman Rights Project, Inc. v. Stanley* (Sup. Ct. 2015) 49 Misc.3d 746, 756 (hereafter *Stanley*).

II. The NhRP has standing to file the Petition on behalf of Amahle, Nolwazi, and Vusmusi

19. The NhRP has standing to file the Petition on Amahle, Nolwazi, and Vusmusi's behalf under Cal. Penal Code § 1474, which reflects the common law. This statute, enacted in 1872, provides in relevant part that an "[a]pplication for the writ is made by petition, signed either by the party for whose relief it is intended, *or by some person in his behalf*, and must specify: (1) That the person in whose behalf the writ is applied for is imprisoned or restrained of his liberty . . . ." Cal. Penal Code § 1474(1) (emphasis added).

20. The 1872 habeas corpus statute, in all relevant ways, is essentially unchanged from Ch. 32 of the Acts of 1850, § 2 which provided, in relevant part, that an "[a]pplication for such writ shall be made by petition, signed either by the party for whose relief it is intended, *or by some person in his behalf*, and shall specify: 1st, That the person in whose behalf the writ is applied for is imprisoned or restrained of his liberty." (emphasis added). In turn, the 1850 habeas corpus statute merely enshrined the traditional common law habeas corpus rule in effect for centuries in English-speaking jurisdictions that ordinarily, anyone, even a stranger, may seek habeas corpus on behalf of a detainee who is deprived of their freedom.[2]

21. "Any person is entitled to institute proceedings to obtain a writ of habeas corpus for the purpose of liberating another from an illegal imprisonment." 11 HALSBURY'S LAWS OF ENGLAND, § 1476, p. 783 (4th ed. 1976); accord JUDITH FARBEY ET AL., THE LAW OF HABEAS CORPUS 237 (3d ed. 2011) ("where a prisoner is being held in circumstances which do not allow for recourse to the courts … an application from a third party will be entertained"); ROLLIN C. HURD, A TREATISE ON THE RIGHT OF PERSONAL LIBERTY, AND ON THE WRIT OF HABEAS CORPUS 211-12 (1858) (it "is not necessary that [the application] proceed from [the prisoner]. An agent or friend may make it on behalf of the prisoner … no legal relation is required to exist between the prisoner and the person making the application. It may be made by any one"). See *Whitmore v. Arkansas* (1990) 495 U.S. 149, 162 ("As early as the 17th century, the English Habeas Corpus Act of 1679 authorized

[2] "When California became a State of the Union the common law was adopted and put in force except where superseded by statute." *In re Farley's Estate* (1944) 63 Cal.App.2d 130, 134.

complaints to be filed by 'any one on . . . behalf' of detained persons . . . and in 1704 the House of Lords resolved '[T]hat every Englishman, who is imprisoned by any authority whatsoever, has an undoubted right, by his agents, or friends, to apply for, and obtain a Writ of Habeas Corpus, in order to procure his liberty by due course of law.'") (citation omitted). See also *Lemmon v. People* (1860) 20 N.Y. 562 (hereafter *Lemmon*) (abolitionist stranger obtained a writ of habeas corpus on behalf of eight slaves); *In re Trainor*, New York Times, May 11, 14, 21, 25, June 14 (1853) (abolitionist society obtained a writ of habeas corpus on behalf of three slaves illegally held on a ship); *In re Kirk* (1846) 1 Edm.Sel.Cas. 315 (abolitionist stranger obtained a writ of habeas corpus on behalf of a slave); *Commonwealth v. Taylor* (1841) 44 Mass. 72 (abolitionist stranger obtained a writ of habeas corpus on behalf of a child slave); *Commonwealth v. Aves* (1836) 35 Mass. 193 (hereafter *Aves*) (abolitionist stranger obtained a writ of habeas corpus on behalf of a child slave); *Truth about Motorways Pty Limited v. Macquarie Infrastructure Investment Management Limited*, (2000) HCA 11, 85 (High Court of Australia) (stranger may seek habeas corpus), available at: https://bit.ly/3xjAxc0; *In re Ning Yi-Ching*, 34 Am. J. Int'l 347 (1940) (stranger China Campaign Committee obtained a writ of habeas corpus on behalf of four Chinese nationals), available at: https://bit.ly/3JyAyLI; *Boudreau v. Thaw* (Quebec Sup. Ct. 1913) 712 (stranger obtained a writ of habeas corpus), available at: https://bit.ly/3xiATQ9; *Gootoo and Inyokwana* (1891) 35 Sol. Jo. 481 (antislavery society stranger obtained a writ of habeas corpus on behalf of children destined for slavery abroad), available at: https://bit.ly/3KxsyvW; *Ex Parte West* (Supreme Court of New South Wales 1861) 2 Legge 1475 (stranger obtained a writ of habeas corpus on behalf of an aboriginal child), available at: https://bit.ly/3uu9Ek1; *Case of the Hottentot Venus* (K.B. 1805) 13 East 185, 104 Eng. Rep. 344 (stranger abolitionist society obtained a writ of habeas corpus on behalf of an African woman), available at: https://bit.ly/3KIJsri.

22. California courts have generally long permitted anyone to file a habeas corpus petition on another's behalf. E.g., *In re Chin Mee Ho* (1903) 140 Cal. 263 (habeas corpus petition filed by a third-party organization to release minor in private detention); *Ex parte The Queen of the Bay* (1850) 1 Cal. 157 (hereafter *Queen of the Bay*) (stranger obtained a writ of habeas corpus to bring five females before the Court, "one of whom was the 'Queen of the Bay,' about fourteen years of age, and the others, who were 'daughters of chiefs'"); *In re Hoffman* (1955) 131 Cal.App.2d 758 (attorney for a patient confined at Kimball Sanitarium obtained habeas corpus petition on patient's behalf); *In re Carey* (1922) 57 Cal.App. 297 (unknown person obtained a writ of habeas corpus on behalf of a woman committed to the California Industrial Farm for Women); *Matter of Archy* (S.F. Cnty. Ct., Mar. 1858) (Freelon, J.), *in* RUDOLPH M. LAPP, ARCHY LEE: A CALIFORNIA FUGITIVE SLAVE CASE 21 (1969) (abolitionist San Francisco Black leader obtained a writ of habeas corpus on behalf of a fugitive slave and ultimately obtained the slave's freedom).

23. A third party may not obtain a writ of habeas corpus on behalf of a competent individual who does not wish to have a habeas corpus petition filed. See, e.g., *In re Borgogna* (1981) 121 Cal.App.3d 937, 947-949 ("Here, Andrew has chosen to stay at Fairview. . . . We conclude from this testimony, as did the trial court, that Andrew is competent to choose to remain at Fairview."); *Ex Parte Child* (1854) 15 C.B. 239 (stranger may not obtain the writ of habeas corpus on behalf of one confined in a "lunatic asylum" if

the detainee can seek his own writ), available at: https://bit.ly/377A1TO; *Ex Parte Landsdowns* (K.B. 1804) 5 East 34 (master cannot obtain a writ of habeas corpus on behalf of an apprentice who voluntarily joined the British navy), available at: https://bit.ly/3Kxt0dC. That is why "'[t]he complaint must set forth some reason or explanation satisfactory to the court showing why the detained person does not sign and verify the complaint and who 'the next friend' is" so that habeas corpus is not "availed of, as a matter of course, by intruders or uninvited meddlers, styling themselves next friends." *In re Harrell* (1970) 2 Cal.3d 675, 689 (citation omitted).

24. Thus, a third-party public defender had standing to bring a habeas corpus petition on behalf of a developmentally-disabled woman who had been placed in a state hospital by her mother. *In re Hop* (1981) 29 Cal.3d 82, 87 (hereafter *Hop*). See also *In re Violet C. on Habeas Corpus* (1989) 213 Cal.App.3d 86 (third party public defender obtained writ of habeas corpus filed on behalf of a developmentally disabled woman involuntarily placed in a state mental hospital); *In re Borgogna*, 121 Cal.App.3d. at 946 ("*Hop* implies, at least in situations where the ward is not clearly competent to speak for himself, others may do so and are fully authorized to be heard.").

25. A third-party public defender was denied standing to bring a petition on behalf of an incompetent adult because "existing remedies [were] adequate" to protect the individual's interests. *Michelle K v. Superior Court* (2013) 221 Cal.App.4th 409, 420 (noting that, unlike in *Hop*, the committee's placement had been subject to periodic judicial review for almost 20 years, a hearing on her next periodic review was already scheduled

when the Public Defender filed the habeas corpus petition, and the Public Defender had failed to show that her conservator was not already acting in her best interest).

26. The NhRP has filed seven habeas corpus petitions in New York on behalf of an elephant and four chimpanzees. Not a single court found that the NhRP lacked standing to seek habeas corpus relief on their behalf.[3] In two of the cases, the courts explicitly stated that the NhRP had standing. See *The Nonhuman Rights Project v. Breheny* (N.Y. Sup. Ct. 2020) 2020 WL 1670735 *1, *7 (hereafter *Breheny (Trial Court)*) ("The NhRP has standing to file the Petition for habeas corpus on behalf of Happy [the elephant]."); *Stanley*, 49 Misc.3d at 756 (explicitly holding that NhRP had standing on behalf of two chimpanzees).[4]

27. The NhRP has standing to file this Petition on behalf of Amahle, Nolwazi, and Vusmusi because they are incompetent to bring a habeas corpus petition on their own behalf, there are no other existing remedies to protect their common law right to bodily

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[3] Like Cal. Penal Code § 1474, the New York procedural statute governing the filing of habeas corpus petitions allows for a third party to bring a petition on anyone's behalf. See CPLR § 7002(a) (a petition for a writ of habeas corpus may be brought by "one acting on . . . behalf of [a] person illegally imprisoned or otherwise restrained in his liberty within the state.").

[4] Two decisions of the Appellate Court of Connecticut erroneously held that the NhRP lacked standing to bring its habeas corpus petition on behalf of three elephants because "the elephants, not being persons, lacked standing in the first instance." *Nonhuman Rights Project, Inc. v R.W. Commerford and Sons, Inc.* (2019) 192 Conn.App. 36, 41; *Nonhuman Rights Project, Inc. v R.W. Commerford & Sons, Inc.* (2020) 197 Conn.App. 353, 360 (hereafter *Commerford Cases*). Contrary to Connecticut Supreme Court precedent, however, those decisions improperly conflated the question of NhRP's standing with the merits of the case (i.e., the elephants' personhood). See, e.g., *Maloney v. Pac* (1981) 183 Conn. 313, 321 n.6 ("We emphasize that the question of standing is not an inquiry into the merits."). In California, "[a] litigant's standing to sue is a threshold issue to be resolved before the matter can be reached on the merits." *Blumhorst v. Jewish Family Services of Los Angeles* (2005) 126 Cal.App.4th 993, 1000; see also *Thurston v. Omni Hotels Management Corporation* (2021) 69 Cal.App.5th 299, 349 (same).

liberty, they never had a chance to challenge the legality of their imprisonment in a judicial proceeding, and no one has ever been authorized by statute to act on their behalf to choose their residence.

III. Parties

28. Petitioner NhRP is a 501(c)(3) non-profit corporation incorporated in the State of Massachusetts, with a principal address at 5195 NW 112th Terrace, Coral Springs, Florida. The NhRP is the only civil rights organization in the United States dedicated solely to securing legal rights for nonhuman animals. Since 1996, the NhRP has worked to obtain legal rights for autonomous nonhuman animals such as chimpanzees and elephants.

29. Amahle, Nolwazi, and Vusmusi are three elephants imprisoned at the Fresno Zoo.

- Amahle is an approximately 12-year-old wild-born female African elephant who grew up in Swaziland's Hlane National Park.[5] In 2016, she was kidnapped from her home and brought to the Dallas Zoo. She was thereafter transferred to the Fresno Zoo where she has been held captive by Respondents ever since.[6]

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[5] The Elephant Database, Amahle, https://bit.ly/3y09H7g.

[6] Charles Siebert, *Zoos Called It a 'Rescue.' But Are the Elephants Really Better Off?* N.Y. TIMES (July 9, 2019), https://nyti.ms/2ZYi2vw ("Despite mounting evidence that elephants find captivity torturous, some American zoos still acquire them from Africa"); see also Teresa Gubbins, *Author Charles Siebert shares intel on his* New York Times *story about Dallas Zoo*, (July 30, 2019), https://bit.ly/3xY7tW5 ("It's one of those longstanding questions about civilization itself, with all the darkness that comes with that. Why do we need to look at them and stare at them? At what point does our wonder no longer warrant another being's wounding?").

- Nolwazi, the mother of Amahle, is an approximately 27-year-old wild-born female African elephant who grew up and raised her calves in Swaziland's Hlane National Park.[7] In 2016, she was kidnapped from her home and brought to the Dallas Zoo. She was thereafter transferred to the Fresno Zoo.[8]
- Vusmusi, also known as Moose, is an 18-year-old captive-born African elephant[9] who was born in 2004 at the San Diego Zoo Safari Park. His mother was pregnant with him when she was kidnapped from her home at Swaziland's Hlane National Park.[10] Vusmusi was transferred to the Fresno Zoo in 2015 from the San Diego Zoo Safari Park.

30. Respondent Fresno's Chaffee Zoo Corporation, which manages the Fresno Zoo, is a 501(c)(3) non-profit corporation incorporated in the State of California with a principal place of business at 894 W. Belmont Ave., Fresno, CA 93728. Respondent Jon Forrest Dohlin is the Chief Executive Officer & Zoo Director of the Fresno Zoo.

IV. List of Exhibits

31. The following exhibits, arranged in chronological order, are true copies of the documents indicated and are incorporated by reference into the Petition.

Exhibit 1: October 13, 2020, Affidavit of Cynthia Moss, Sc.D.

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[7] The Elephant Database, Nolwazi, https://bit.ly/3EHhbOQ.

[8] Siebert, https://nyti.ms/2ZYi2vw.

[9] The Elephant Database, Moose (Vusmusi), https://bit.ly/3IpVwx5.

[10] Siebert, https://nyti.ms/2ZYi2vw.

Exhibit 2: October 27, 2020, Affidavit of Karen McComb, Ph.D.

Exhibit 3: November 24, 2020, Affidavit of Bob Jacobs, Ph.D.

Exhibit 4: January 27, 2021, and February 3, 2021, Joint Affidavit of Richard M. Byrne, Ph.D., and Lucy Bates, Ph.D., respectively.

Exhibit 5: March 17, 2022, Affidavit of Keith Lindsay, Ph.D.

Exhibit 6: March 28, 2022, Affidavit of Joyce Poole, Ph.D.

Exhibit 7: April 12, 2022, The Nonhuman Rights Project, Inc. Trust for Amahle, Nolwazi, and Vusmusi.

32. The Expert Scientific Affidavits (exhibits 1-6) are from seven of the world's most renowned elephant scientists with expertise on elephant cognition.[11] The Nonhuman Rights Project, Inc. Trust for Amahle, Nolwazi, and Vusmusi (exhibit 7) is created by the NhRP pursuant to California Probate Code § 15212.

V. The Expert Scientific Affidavits

a. Elephants are autonomous and extraordinarily cognitively complex beings

33. The Expert Scientific Affidavits demonstrate that Amahle, Nolwazi, and Vusmusi are autonomous and extraordinarily cognitively complex. The cognitive abilities of elephants include: autonomy; empathy; self-awareness; self-determination; theory of mind (awareness others have minds); insight; working memory; extensive long-term

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[11] One of the affiants, Dr. Joyce Poole, has created The Elephant Ethogram: A Library of African Elephant Behavior, which documents close to 500 behaviors with written descriptions and some 2,300 video clips. *The Elephant Ethogram*, ELEPHANTVOICES (2021), https://bit.ly/3qkupLK.

memory that allows them to accumulate social knowledge; the ability to act intentionally and in a goal-oriented manner, and to detect animacy and goal directedness in others; understanding the physical competence and emotional state of others; imitating, including vocal imitation; pointing and understanding pointing; engaging in true teaching (taking the pupil's lack of knowledge into account and actively showing them what to do); cooperating and building coalitions; cooperative problem-solving, innovative problem-solving, and behavioral flexibility; understanding causation; intentional communication, including vocalizations to share knowledge and information with others in a manner similar to humans; ostensive behavior that emphasizes the importance of a particular communication; displaying a wide variety of gestures, signals, and postures; using specific calls and gestures to plan and discuss a course of action, adjusting their planning according to their assessment of risk, and executing the plan in a coordinated manner; complex learning and categorization abilities; and, an awareness of and response to death, including grieving behaviors.

34. Elephants share numerous complex cognitive capacities with humans, such as self-awareness, empathy, awareness of death, intentional communication, learning, memory, and categorization abilities.[12] Many of these capacities have been erroneously considered unique to humans, and each capacity is a component of autonomy.[13]

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[12] Joint Affidavit of Dr. Lucy Bates and Dr. Richard M. Byrne (hereafter Bates & Byrne Aff.) ¶ 37; Affidavit of Dr. Karen McComb (hereafter McComb Aff.) ¶ 31; Affidavit of Dr. Joyce Poole (hereafter Poole Aff.) ¶ 29; Affidavit of Dr. Cynthia Moss (hereafter Moss Aff.) ¶ 25.

[13] *Id.*

35. Elephants are autonomous, as they exhibit self-determined behavior that is based on freedom of choice.[14] As a psychological concept, autonomy implies that the individual is directing their behavior based on some non-observable, internal cognitive process, rather than simply responding reflexively.[15]

36. Elephants possess the largest absolute brain of any land animal.[16] Even relative to their body sizes, elephant brains are large.[17] An encephalization quotient ("EQ") of 1.0 means a brain is exactly the size expected for that body size; values greater than 1.0 indicate a larger brain than expected for that body size.[18] Elephants have an EQ of between 1.3 and 2.3 (varying between sex and African and Asian species).[19] This means an elephant's brain can be more than twice as large as is expected for an animal of its size.[20] These EQ values are like those of the great apes, with whom elephants have not shared a common ancestor for almost 100 million years.[21]

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[14] Bates & Byrne Aff. ¶¶ 30, 60; McComb Aff. ¶¶ 24, 31, 54; Poole Aff. ¶¶ 22, 69; Moss Aff. ¶¶ 18, 48; Affidavit of Keith Lindsay (hereafter Lindsay Aff.) ¶¶ 10, 33-34.

[15] Bates & Byrne Aff. ¶ 30; McComb Aff. ¶¶ 24, 54; Poole Aff. ¶ 22; Moss Aff. ¶¶ 18.

[16] Bates & Byrne Aff. ¶ 32; McComb Aff. ¶ 26; Poole Aff. ¶ 24; Moss Aff. ¶ 20.

[17] McComb Aff. ¶ 26; Poole Aff. ¶ 24; Moss Aff. ¶ 20; Bates & Byrne Aff. ¶ 32 ("Encephalization quotients (EQ) are a standardized measure of brain size relative to body size and illustrate by how much a species' brain size deviates from that expected for its body size.").

[18] Bates & Byrne Aff. ¶ 32; McComb Aff. ¶ 26; Poole Aff. ¶ 24; Moss Aff. ¶ 20.

[19] Bates & Byrne Aff. ¶ 32; McComb Aff. ¶ 26; Poole Aff. ¶ 24; Moss Aff. ¶ 20.

[20] *Id*.

[21] *Id*.

37. A large brain allows greater cognitive skill and behavioral flexibility.[22] Typically, mammals are born with brains weighing up to 90% of the adult weight.[23] This figure drops to about 50% for chimpanzees.[24] At birth, human brains weigh only about 27% of the adult brain weight and increase in size over a prolonged childhood period.[25] This lengthy period of brain development (termed "developmental delay") is a key feature of human brain evolution.[26] It provides a longer period in which the brain may be shaped by experience and learning, and plays a role in the emergence of complex cognitive abilities such as self-awareness, creativity, forward planning, decision making and social interaction.[27] At birth, elephant brains weigh only about 35% of their adult weight, and elephants accordingly undergo a similarly protracted period of growth, development and learning.[28] This similar developmental delay in the elephant brain is likewise associated with the emergence of analogous cognitive abilities.[29]

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[22] Bates & Byrne Aff. ¶¶ 32-33; McComb Aff. ¶ 26; Poole Aff. ¶ 24; Moss Aff. ¶ 20.

[23] Bates & Byrne Aff. ¶ 33; McComb Aff. ¶ 27; Poole Aff. ¶ 25; Moss Aff. ¶ 21.

[24] *Id*.

[25] *Id*.

[26] *Id*.

[27] *Id*.

[28] *Id*.

[29] *Id*.

38. Physical similarities between human and elephant brains occur in areas that link to the capacities necessary for autonomy and self-awareness.[30] Elephant and human brains share deep and complex folding of the cerebral cortex, large parietal and temporal lobes, and a large cerebellum.[31] The temporal and parietal lobes of the cerebral cortex manage communication, perception, and recognition and comprehension of physical actions, while the cerebellum is involved in planning, empathy, and predicting and understanding the actions of others.[32]

39. Elephant brains hold nearly as many cortical neurons as do human brains, and a much greater number than do chimpanzees or bottlenose dolphins.[33] Elephants' pyramidal neurons—the class of neurons found in the cerebral cortex, particularly the pre-frontal cortex, which is the brain area that controls "executive functions"—are larger than in humans and most other species.[34] The term "executive function" refers to controlling operations, such as paying attention, inhibiting inappropriate responses, and deciding how to use memory search. These abilities develop late in human infancy and are often impaired in dementia. The degree of complexity of pyramidal neurons is linked to cognitive ability, with more complex connections between pyramidal neurons being associated with increased

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[30] Bates & Byrne Aff. ¶ 34; Poole Aff. ¶ 26; McComb Aff. ¶ 28; Moss Aff. ¶ 22.

[31] *Id*.

[32] *Id*.

[33] Bates & Byrne Aff. ¶ 35; McComb Aff. ¶ 29; Moss Aff. ¶ 23; Poole Aff. ¶ 27 ("Humans: 1.15×10^{10}; elephants: 1.1×10^{10}; chimpanzees: 6.2×10^{9}; dolphins: 5.8×10^{9}.").

[34] Bates & Byrne Aff. ¶ 35; McComb Aff. ¶ 29; Poole Aff. ¶ 27; Moss Aff. ¶ 23.

cognitive capabilities.[35] Elephant pyramidal neurons have many connections with other neurons for receiving and sending signals, known as a dendritic tree.[36]

40. Pyramidal neurons in elephants are just as complex as similar neurons in the human cortex, and like in humans, these neurons are also more complex in the frontal lobe (involved with higher cognitive function) than in the occipital lobe (involved in the early processing of incoming visual information).[37] These parallels are remarkable in terms of the overall complexity of neurons and their functional involvement.[38] Due to the length of their dendrites, elephant neurons sample a wide variety of information; this broad synthesis of information may contribute to elephants' contemplative nature—they often appear to be examining their surroundings and thinking very deeply about what is going on around them.[39]

41. Elephants, like humans, great apes, and some cetaceans, possess *Von Economo neurons*, or spindle cells, the so-called "air-traffic controllers for emotions," in the anterior cingulate, fronto-insular, and dorsolateral prefrontal cortex areas of the brain.[40] In humans, these cortical areas are involved with the processing of complex social information, emotional learning and empathy, planning and decision-making, and self-

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[35] *Id.*

[36] *Id.*

[37] Affidavit of Bob Jacobs (hereafter Jacobs Aff.) ¶ 8.

[38] *Id.*

[39] *Id.*

[40] Moss Aff. ¶ 24.

awareness and self-control, among other things.[41] The presence of spindle cells in the same brain locations in elephants and humans strongly implies that these higher-order brain functions, which are the building blocks of autonomous, self-determined behavior, are common to both species.[42]

42. Elephants have extensive and long-lasting memories.[43] Using experimental playback of long-distance contact calls in Amboseli National Park, Kenya, showed that African elephants remember and recognize the voices of at least 100 other elephants.[44] Each adult female elephant tested was familiar with the contact-call vocalizations of individuals from an average of 14 families in the population.[45] When the calls came from the test elephants' own family, they contact-called in response and approached the location of the loudspeaker; when they were from another non-related but familiar family, one that had been shown to have a high association index with the test group, they listened but remained relaxed.[46] However, when a test group heard unfamiliar contact calls from groups with a low association index with the test group, the elephants bunched together and retreated from the area.[47]

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[41] *Id*.

[42] *Id*.

[43] Bates & Byrne Aff. ¶ 54; McComb Aff. ¶ 48; Poole Aff. ¶ 49; Moss Aff. ¶ 42; Lindsay Aff. ¶¶ 12-14.

[44] Bates & Byrne Aff. ¶ 54; McComb Aff. ¶ 48; Poole Aff. ¶ 49; Moss Aff. ¶ 42.

[45] *Id*.

[46] *Id*.

[47] *Id*.

43. McComb et al. has demonstrated that this social knowledge accumulates with age, with older females having the best knowledge of the contact calls of other family groups, and that older females are better leaders than younger elephants, with more appropriate decision-making in response to potential threats (in this case, in the form of hearing lion roars).[48] Younger matriarchs under-reacted to hearing roars from male lions, elephants' most dangerous predators.[49] Sensitivity to the roars of male lions increased with increasing matriarch age, with the oldest, most experienced females showing the strongest response to this danger.[50] These studies show that elephants continue to learn and remember information about their environments throughout their lives, and this accrual of knowledge allows them to make better decisions and better lead their families as they age.[51] The experiences elephants gain over a lifetime are shared between members of their strongly bonded social groups through example, teaching, and learning.[52]

44. Further demonstration of elephants' long-term memory emerges from data on their movement patterns.[53] African elephants move over very large distances in their search for food and water.[54] Leggett (2006) used GPS collars to track the movements of elephants

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[48] Bates & Byrne Aff. ¶ 55; McComb Aff. ¶ 49; Poole Aff. ¶ 50; Moss Aff. ¶ 43.

[49] *Id*.

[50] *Id*.

[51] *Id*.

[52] Lindsay Aff. ¶ 34.

[53] Bates & Byrne Aff. ¶ 56; McComb Aff. ¶ 50; Poole Aff. ¶ 51; Moss Aff. ¶ 44.

[54] *Id*.

living in the Namib Desert, with one group traveling over 600 km in five months.[55] Viljoen (1989) showed that elephants in the same region visited water holes approximately every four days, though some were more than 60 km apart.[56]

45. Elephants inhabiting the deserts of Namibia and Mali may travel hundreds of kilometers to visit remote water sources shortly after the onset of a period of rainfall, sometimes along routes that have not been used for many years.[57] These remarkable feats suggest exceptional cognitive mapping skills that rely upon the long-term memories of older individuals who may have traveled that same path decades earlier.[58] Thus, family groups headed by older matriarchs are better able to survive periods of drought.[59] These older matriarchs lead their families over larger areas during droughts than families headed by younger matriarchs, again drawing on their accrued knowledge, this time about the locations of permanent, drought-resistant sources of food and water, to better lead and protect their families.[60]

46. Studies reveal that long-term memories, and the decision-making mechanisms that rely on this knowledge, are severely disrupted in elephants who have experienced

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[55] *Id.*

[56] *Id.*

[57] *Id.*

[58] *Id.*

[59] *Id.*

[60] *Id.*

trauma or extreme disruption due to "management" practices initiated by humans.[61] Shannon et al. (2013) demonstrated that South African elephants who experienced trauma decades earlier showed significantly reduced social knowledge.[62] As a result of archaic culling practices, these elephants had been forcibly separated from family members and subsequently taken to new locations.[63] Two decades later, their social knowledge and skills and decision-making abilities were impoverished compared to an undisturbed Kenyan population.[64] Disrupting elephants' natural way of life has substantial negative impacts on their knowledge and decision-making abilities.[65]

47. Elephants demonstrate advanced working memory skills.[66] Working memory is the ability to temporarily store, recall, manipulate and coordinate items from memory.[67] Working memory directs one's attention to relevant information, utilized in reasoning, planning, coordination, and execution of cognitive processes through a "central executive."[68] Adult human working memory has a capacity of around seven items.[69] When

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[61] Bates & Byrne Aff. ¶ 57; McComb Aff. ¶ 51; Poole Aff. ¶ 52; Moss Aff. ¶ 45.

[62] *Id.*

[63] *Id.*

[64] *Id.*

[65] *Id.*

[66] Bates & Byrne Aff. ¶ 58; McComb Aff. ¶ 52; Poole Aff. ¶ 53; Moss Aff. ¶ 46; Lindsay Aff. ¶¶ 12-14.

[67] Bates & Byrne Aff. ¶ 58; McComb Aff. ¶ 52; Poole Aff. ¶ 53; Moss Aff. ¶ 46.

[68] *Id.*

[69] *Id.*

experiments were conducted with wild elephants in Kenya in which the locations of fresh urine samples from related or unrelated elephants were manipulated, the elephants responded by detecting urine from known individuals in surprising locations, thereby demonstrating the ability continually to track the locations of at least 17 family members in relation to themselves, as either absent, present in front of self, or present behind self.[70] This remarkable ability to hold in mind and regularly update information about the locations and movements of a large number of family members is best explained by the fact that elephants possess an unusually large working memory capacity that is much larger than that of humans.[71]

48. Elephants display a sophisticated categorization of their environment on par with humans.[72] Dr. Bates, Dr. Byrne, Dr. Poole, and Dr. Moss experimentally presented the elephants of Amboseli National Park, Kenya with garments that gave olfactory or visual information about their human wearers, either Maasai warriors who traditionally attack and spear elephants as part of their rite of passage, or Kamba men who are agriculturalists and traditionally pose little threat to elephants.[73] In the first experiment, the only thing that differed between the cloths was the smell, derived from the ethnicity and/or lifestyle of the

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[70] *Id.*

[71] *Id.*

[72] Bates & Byrne Aff. ¶ 59; McComb Aff. ¶ 53; Poole Aff. ¶ 54; Moss Aff. ¶ 47.

[73] *Id.*

wearers.[74] The elephants were significantly more likely to run away when they sniffed cloths worn by Maasai men than those worn by Kamba men or no one at all.[75]

49. In a second experiment, they presented the elephants with two cloths that had not been worn by anyone; one was white (a neutral stimulus) and the other red, the color ritually worn by Maasai warriors.[76] With access only to these visual cues, the elephants showed significantly greater, sometimes aggressive, reactions to red garments than white.[77] They concluded that elephants are able to categorize a single species (humans) into sub-classes (i.e., "dangerous" or "low risk") based on either olfactory or visual cues alone.[78]

50. McComb et al. further demonstrated that these same elephants distinguish human groups based on voices.[79] The elephants reacted differently, and appropriately, depending on whether they heard Maasai or Kamba men speaking, and whether the speakers were male Maasai versus female Maasai, who also pose no threat.[80] Scent, sounds, and visual signs associated specifically with Maasai men are categorized as "dangerous," while neutral signals are attended to but categorized as "low risk."[81] These sophisticated,

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[74] *Id.*

[75] *Id.*

[76] *Id.*

[77] *Id.*

[78] *Id.*

[79] *Id.*

[80] *Id.*

[81] *Id.*

multi-modal categorization skills may be exceptional among non-human animals and demonstrate elephants' acute sensitivity to the human world and how they monitor human behavior and learn to recognize when we might cause them harm.[82]

51. Human speech and language reflect autonomous thinking and intentional behavior.[83] Similarly, elephants vocalize to share knowledge and information.[84] Male elephants primarily communicate about their sexual status, rank and identity, whereas females and dependents emphasize and reinforce their social units.[85] Call types are separated into those produced by the larynx (such as "rumbles") and calls produced by the trunk (such as "trumpets"), with different calls in each category used in different contexts.[86] Field experiments have shown that African elephants distinguish between call types. For example, such contact calls as "rumbles" may travel kilometers and maintain associations between elephants, or "Estrus-Rumbles" may occur after a female has copulated, and these call types elicit different responses in listeners.[87]

52. Elephant vocalizations are not merely reflexive; they have distinct meanings to listeners and communicate in a manner similar to the way humans use language.[88]

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[82] *Id.*

[83] Bates & Byrne Aff. ¶ 50; McComb Aff. ¶ 44; Poole Aff. ¶ 42; Moss Aff. ¶ 38.

[84] *Id.*

[85] *Id.*

[86] *Id.*

[87] *Id.*

[88] *Id.*

Elephants display more than two hundred gestures, signals and postures that they use to communicate information to their audience.[89] Such signals are adopted in many contexts, such as aggressive, sexual or socially integrative situations; the signals are well-defined, carry a specific meaning both to the actor and recipient, result in predictable responses from the audience, and together demonstrate intentional and purposeful communication intended to share information and/or alter the others' behavior to fit their own will.[90]

53. Elephants use specific calls and gestures to plan and discuss a course of action.[91] These may be to respond to a threat through a group retreating or mobbing action (including a celebration of successful efforts), or planning and discussing where, when, and how to move to a new location. In group-defensive situations, elephants respond with highly coordinated behavior, both rapidly and *predictably*, to specific calls uttered and particular gestures exhibited by group members.[92] These calls and gestures carry specific meanings not only to elephant listeners but to experienced human listeners as well.[93] The rapid, predictable, and collective response of elephants to these calls and gestures indicates that elephants have the capacity to understand the goals and intentions of the signalling

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[89] Bates & Byrne Aff. ¶ 52; McComb Aff. ¶ 46; Poole Aff. ¶ 43; Moss Aff. ¶ 40.

[90] *Id.*

[91] Poole Aff. ¶ 44.

[92] Poole Aff. ¶ 45.

[93] *Id.*

individual.[94] For example, elephants can detect alarm calls from some considerable distance and avoid the area where elephant killings by rural villagers or armed gangs take place.[95]

54. Elephant group defensive behavior is highly evolved and involves a range of different tactical maneuvers adopted by different elephants.[96] For example, matriarch Provocadora's contemplation of Dr. Poole's team through "Listening" and "J-Sniffing," followed by her purposeful "Perpendicular-Walk" (in relation to Dr. Poole's team) toward her family and her "Ear-Flap-Slide" clearly communicated that her family should begin a "Group-Advance" upon Dr. Poole's team.[97] This particular elephant attack is a powerful example of elephants' use of empathy, coalition, and cooperation.[98] Provocadora's instigation of the "Group-Advance" led to a two-and-a-half minute "Group-Charge" in which the three other large adult females of the 36-member family took turns leading the charge, passing the baton, in a sense, from one to the next.[99] Once they succeeded in their goal of chasing Dr. Poole's team away, they celebrated their victory by "High-Fiving" with their trunks and engaging in an "End-Zone-Dance."[100] "High-Fiving" is also typically used to initiate a coalition and is both preceded by and

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[94] *Id.*

[95] Lindsay Aff. ¶ 27.

[96] Poole Aff. ¶ 45.

[97] *Id.*

[98] *Id.*

[99] *Id.*

[100] *Id.*

associated with other specific gestures and calls that lead to very goal oriented collective behavior.[101]

55. Ostensive communication refers to the way humans use behavior, such as tone of speech, eye contact, and physical contact, to emphasize that a particular communication is important.[102] Lead elephants in family groups use ostensive communication frequently to say, "Heads up—I am about to do something that you should pay attention to."[103]

56. In planning and communicating intentions regarding a movement, elephants use both vocal and gestural communication.[104] For example, Dr. Poole has observed that a member of a family will use the axis of her body to point in the direction she wishes to go and then vocalize, every couple of minutes, with a specific call known as a "Let's-Go" rumble: "I want to go this way, let's go together."[105] The elephant will also use intention gestures—such as "Foot-Swinging"—to indicate her intention to move.[106] Such a call may be successful or unsuccessful at moving the group or may lead to a 45-minute or longer discussion (a series of rumble exchanges known as "Cadenced-Rumbles") that researchers interpret as negotiation.[107] Sometimes such negotiation leads to disagreement that may

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[101] *Id.*

[102] Poole Aff. ¶ 36.

[103] *Id.*

[104] Poole Aff. ¶ 46.

[105] *Id.*

[106] *Id.*

[107] *Id.*

result in the group splitting and going in different directions for a period of time.[108] In situations where the security of the group is at stake, such as when movement is planned through or near human settlement, all group members focus on the matriarch's decision.[109] So while "Let's Go" rumbles are uttered, others adopt a "Waiting" posture until the matriarch, after much "Listening," "J-Sniffing," and "Monitoring," decides it is safe to proceed, whereupon they bunch together and move purposefully, and at a fast pace in a "Group-March."[110]

57. Elephants typically move through dangerous habitat and nighttime hours at high speed in a clearly goal-oriented manner known as "streaking," which has been described and documented through the movements of elephants wearing satellite tracking collars.[111] The many different signals—calls, postures, gestures and behaviors elephants use to contemplate and initiate such movement (including "Ear-Flap," "Ear-Flap-Slide")—are clearly understood by other elephants (just as they can be understood after a long-term study by human observers), mean very specific things, and indicate that elephants: 1) have a particular plan which they can communicate with others; 2) can adjust their plan according to their immediate assessment of risk or opportunity; and 3) can communicate and execute the plan in a coordinated manner.[112]

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[108] *Id.*

[109] *Id.*

[110] *Id.*

[111] *Id.*

[112] *Id.*

58. Elephants can vocally imitate sounds they hear, from the engines of passing trucks to the commands of human zookeepers.[113] Imitating another's behavior is demonstrative of a sense of self, as it is necessary to understand how one's own behavior relates to the behavior of others.[114] African elephants recognize the importance of visual attentiveness on the part of an intended recipient, elephant or human, and of gestural communication, which further demonstrates that elephants' gestural communications are intentional and purposeful.[115] This ability to understand the visual attentiveness and perspective of others is crucial for empathy, mental-state understanding, and "theory of mind," the ability to mentally represent and think about the knowledge, beliefs, and emotional states of others while recognizing that these can be distinct from your own knowledge, beliefs, and emotions.[116]

59. As do humans, Asian elephants exhibit "mirror self-recognition" (MSR) using Gallup's classic "mark test."[117] MSR is the ability to recognize a reflection in the mirror as oneself, while the mark test involves surreptitiously placing a colored mark on an individual's forehead that she cannot see or be aware of without the aid of a mirror.[118] If the

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[113] Bates & Byrne Aff. ¶ 51; McComb Aff. ¶ 45; Poole Aff. ¶ 47; Moss Aff. ¶ 39.

[114] *Id*.

[115] Bates & Byrne Aff. ¶ 53; McComb Aff. ¶ 47; Poole Aff. ¶ 48; Moss Aff. ¶ 41.

[116] Bates & Byrne Aff. ¶¶ 40, 53; McComb Aff. ¶¶ 34, 47; Poole Aff. ¶¶ 32, 48; Moss Aff. ¶¶ 28, 41.

[117] Bates & Byrne Aff. ¶ 38; McComb Aff. ¶ 32; Poole Aff. ¶ 30; Moss Aff. ¶ 26.

[118] *Id*.

individual uses the mirror to investigate the mark, the individual must recognize the reflection as herself.[119]

60. MSR is significant because it is a key identifier of self-awareness.[120] Self-awareness is intimately related to autobiographical memory in humans and is central to autonomy and being able to direct one's own behavior to achieve personal goals and desires.[121] By demonstrating they can recognize themselves in a mirror, elephants must be holding a mental representation of themselves from another perspective and thus be aware that they are a separate entity from others.[122]

61. One who understands the concept of dying and death must possess a sense of self.[123] Both chimpanzees and elephants demonstrate an awareness of death by reacting to dead family or group members.[124] Having a mental representation of the self, which is a pre-requisite for mirror-self recognition, likely confers an ability to comprehend death.[125]

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[119] *Id.*

[120] *Id.*

[121] McComb Aff. ¶ 32; Poole Aff. ¶ 30; Moss Aff. ¶ 26; Bates & Byrne Aff. ¶ 38 ("'Autobiographical memory' refers to what one remembers about his or her own life; for example, not that 'Paris is the capital of France,' but the recollection that you had a lovely time when you went there.").

[122] Bates & Byrne Aff. ¶ 38; McComb Aff. ¶ 32; Poole Aff. ¶ 30; Moss Aff. ¶ 26.

[123] Poole Aff. ¶ 31; Bates & Byrne Aff. ¶ 39; Moss Aff. ¶ 27.

[124] Bates & Byrne Aff. ¶ 39; McComb Aff. ¶ 33; Poole Aff. ¶ 31; Moss Aff. ¶ 27.

[125] *Id.*

62. Wild African elephants have been shown experimentally to be more interested in the bones of dead elephants than the bones of other animals.[126] They have frequently been observed using their tusks, trunk or feet to attempt to lift sick, dying or dead individuals.[127] Although they do not give up trying to lift or elicit movement from a dead body immediately, elephants appear to realize that once dead, the carcass can no longer be helped; and instead they engage in more "mournful" or "grief-stricken" behavior, such as standing guard over the body with dejected demeanor and protecting it from predators.[128]

63. Wild African elephants have been observed to cover the bodies of their dead with dirt and vegetation.[129] Mothers who lose a calf may remain with the calf's body for an extended period, but do not behave towards the body as they would a live calf.[130] Indeed, the general demeanor of elephants attending to a dead elephant is one of grief and compassion, with slow movements and few vocalizations.[131] These behaviors are akin to human responses to the death of a close relative or friend and demonstrate that elephants possess some understanding of life and the permanence of death.[132]

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[126] *Id.*

[127] *Id.*

[128] *Id.*

[129] *Id.*

[130] *Id.*

[131] *Id.*

[132] *Id.*

64. Elephants' interest in the bodies, carcasses and bones of elephants who have passed is so marked that when one has died, trails to the site of death become worn into the ground by the repeated visits of many elephants over days, weeks, months, even years.[133] The accumulation of dung around the site attests to the extended time that visiting elephants spend touching and contemplating the bones.[134] Dr. Poole observed that, over years, the bones may become scattered over tens or hundreds of square meters as elephants pick up the bones and carry them away.[135] The tusks are of particular interest and may be carried and deposited many hundreds of meters from the site of death.[136]

65. The capacity for mentally representing the self as an individual entity has been linked to general empathic abilities.[137] Empathy is defined as identifying with and understanding another's experiences or feelings by relating personally to their situation.[138] Empathy is an important component of human consciousness and autonomy and is a cornerstone of normal social interaction.[139] It requires modeling the emotional states and desired goals that influence others' behavior both in the past and future, and using this information to plan one's own actions; empathy is only possible if one can adopt or imagine

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[133] Poole Aff. ¶ 31.

[134] *Id.*

[135] *Id.*

[136] *Id.*

[137] Bates & Byrne Aff. ¶ 40; McComb Aff. ¶ 34; Poole Aff. ¶ 32; Moss Aff. ¶ 28.

[138] *Id.*

[139] *Id.*

another's perspective, and attribute emotions to that other individual.[140] Thus, empathy is a component of "theory of mind."[141]

66. Elephants frequently display empathy in the form of protection, comfort, and consolation, as well as by actively helping those in difficulty, such as assisting injured individuals to stand and walk, or helping calves out of rivers or ditches with steep banks.[142] Elephants have been seen to react when anticipating the pain of others by wincing when a nearby elephant stretched her trunk toward a live wire and have been observed feeding those unable to use their own trunks to eat and attempting to feed those who have just died.[143]

67. In an analysis of behavioral data collected from wild African elephants over a 40-year continuous field study, Dr. Bates and colleagues concluded that as well as possessing their own intentions, elephants can diagnose animacy and goal-directedness in others, understand the physical competence and emotional state of others, and attribute goals and mental states (intentions) to others.[144] This is borne out by examples such as:

> IB family is crossing river. Infant struggles to climb out of bank after its mother. An adult female [not the mother] is standing next to calf and moves closer as the infant struggles. Female does not push calf out with its trunk, but digs her tusks into the mud behind the calf's front right leg which acts to provide some anchorage for the calf, who then scrambles up and out and rejoins mother. At 11.10ish Ella gives a "let's go" rumble as she moves further down the swamp . . . At 11.19

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[140] *Id.*

[141] *Id.*

[142] Bates & Byrne Aff. ¶ 41; McComb Aff. ¶ 35; Poole Aff. ¶ 33; Moss Aff. ¶ 29.

[143] *Id.*

[144] Bates & Byrne Aff. ¶ 42; McComb Aff. ¶ 36; Poole Aff. ¶ 34; Moss Aff. ¶ 30.

> Ella goes into the swamp. The entire group is in the swamp except Elspeth and her calf [<1 year] and Eudora [Elspeth's mother]. At 11.25 Eudora appears to "lead" Elspeth and the calf to a good place to enter the swamp—the only place where there is no mud.[145]

68. In addition to the examples analyzed in Bates et al., Dr. Poole observed two adult females rush to the side of a third female who had just given birth, back into her, and press their bodies to her in what appeared to be a spontaneous attempt to prevent injury to the newborn.[146] In describing the situation, Dr. Poole wrote:

> The elephants' sounds [relating to the birth] also attracted the attention of several males including young and inexperienced, Ramon, who, picking up on the interesting smells of the mother [Ella], mounted her, his clumsy body and feet poised above the newborn. Matriarch Echo and her adult daughter Erin, rushed to Ella's side and, I believe, purposefully backed into her in what appeared to be an attempt to prevent the male from landing on the baby when he dismounted.[147]

69. Such examples demonstrate that the acting elephant(s) (the adult female in the first example, Eudora in the second, and Erin and Echo in the third) were able to understand the intentions or situation of the other (the calf in the first case, Elspeth in the second, Ella's newborn and the male in the third), and could adjust their own behavior to counteract the problem being faced by the other.[148]

70. In raw footage filmed in the Mara, Kenya by Dr. Poole's brother, an "allo-mother" (an elephant who cares for an infant and is not the infant's mother or father) moves a log from under the head of an infant in what appears to be an effort to make him more

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[145] Bates & Byrne Aff. ¶ 42.

[146] Poole Aff. ¶ 34.

[147] *Id.*

[148] Bates & Byrne Aff. ¶ 42; McComb Aff. ¶ 36; Poole Aff. ¶ 34; Moss Aff. ¶ 30.

comfortable.[149] In a further example of the ability to understand goal directedness of others, elephants appear to understand that vehicles drive on roads or tracks and they further appear to know where these tracks lead.[150] In Gorongosa, Mozambique, where elephants exhibit a culture of aggression toward humans, charging, chasing and attacking vehicles, adult females anticipate the direction the vehicle will go and attempt to cut it off by taking shortcuts *before* the vehicle has begun to turn.[151]

71. Empathic behavior begins early in elephants. In humans, rudimentary sympathy for others in distress has been recorded in infants as young as 10 months old; young elephants similarly exhibit sympathetic behavior.[152] For example, during fieldwork in the Maasai Mara in 2011, Dr. Poole filmed a mother elephant using her trunk to assist her one-year-old female calf up a steep bank. Once the calf was safely up the bank, the calf turned around to face her five-year-old sister, who was also having difficulties getting up the bank. As the older calf struggled to clamber up the bank the younger calf approached her and first touched her mouth (a gesture of reassurance among family members) and then reached her trunk out to touch the leg that had been having difficulty. Only when her sibling was safely up the bank did the calf turn to follow her mother.[153]

72. Captive African elephants attribute intentions to others, as they follow and

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[149] Poole Aff. ¶ 34.

[150] *Id.*

[151] *Id.*

[152] *Id.*

[153] *Id.*

understand human pointing gestures.[154] The elephants understood that the human experimenter was pointing to communicate information to them about the location of a hidden object.[155] Attributing intentions and understanding another's reference point is central to both empathy and "theory of mind."[156]

73. There is evidence of "natural pedagogy," or true teaching—whereby a teacher takes into account the knowledge states of the learner as she passes on relevant information—in elephants. Dr. Bates, Dr. Byrne, and Dr. Moss's analysis of simulated "oestrus behaviours"[157] in African elephants—whereby a non-cycling, sexually experienced older female will simulate the visual signals of being sexually receptive, even though she is not ready to mate or breed again—demonstrates that these knowledgeable females can adopt false "oestrus behaviours" to demonstrate to naïve young females how to attract and respond appropriately to suitable males.[158] The experienced females may be taking the youngster's lack of knowledge into account and actively showing them what to do—a

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[154] Bates & Byrne Aff. ¶ 43; McComb Aff. ¶ 37; Poole Aff. ¶ 35; Moss Aff. ¶ 31.

[155] *Id.*

[156] *Id.*

[157] Bates & Byrne Aff. ¶ 44 ("Ostension is the way that we can 'mark' our communications to show people that that is what they are. If you do something that another copies, that's imitation; but if you deliberately indicate what you are doing to be helpful, that's 'ostensive' teaching. Similarly, we may 'mark' a joke, hidden in seemingly innocent words; or 'mark' our words as directed towards someone specific by catching their eye. Ostension implies that the signaler knows what they are doing.").

[158] Bates & Byrne Aff. ¶ 44; McComb Aff. ¶ 38; Poole Aff. ¶ 36; Moss Aff. ¶ 32.

possible example of true teaching as it is defined in humans.[159] This evidence, coupled with the data showing they understand the ostensive cues in human pointing, suggests that elephants understand the intentions and knowledge states (minds) of others.[160]

74. Coalitions and cooperation have been frequently documented in wild African elephants, particularly to defend family members or close allies from (potential) attacks by outsiders, such as when one family group tries to "kidnap" a calf from an unrelated family.[161] These behaviors are generally preceded by gestural and vocal signals, typically given by the matriarch, and acted upon by family members, and are based on one elephant understanding the emotions and goals of a coalition partner.[162]

75. Cooperation is evident in captive Asian elephants, who demonstrate they can work together in pairs to obtain a reward, but also understand the pointlessness of attempting the task if their partner was not present or could not access the equipment.[163] Problem-solving and working together to achieve a collectively desired outcome involve mentally representing both a goal and the sequence of behaviors that is required to achieve that goal; it is based on (at the very least) short-term action planning.[164]

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[159] *Id.*

[160] *Id.*

[161] Bates & Byrne Aff. ¶ 45; McComb Aff. ¶ 39; Poole Aff. ¶ 37; Moss Aff. ¶ 33.

[162] *Id.*

[163] Bates & Byrne Aff. ¶ 46; McComb Aff. ¶ 40; Poole Aff. ¶ 38; Moss Aff. ¶ 34.

[164] *Id.*

76. Wild elephants have frequently been observed engaging in such cooperative problem-solving as retrieving calves kidnapped by other groups, helping calves out of steep, muddy river banks, rescuing a calf attacked by a lion (acoustic recording calling to elicit help from others), and navigating through human-dominated landscapes to reach a desired destination such as a habitat, salt-lick, or waterhole.[165] These behaviors demonstrate the purposeful and well-coordinated social system of elephants and show that elephants can collectively hold specific aims in mind, then work together to achieve those goals.[166] Such intentional, goal-directed action forms the foundation of independent agency, self-determination, and autonomy.[167]

77. Elephants also show innovative problem-solving in experimental tests of insight, defined as the "a-ha" moment when a solution to a problem suddenly becomes clear.[168] A juvenile male Asian elephant demonstrated such a spontaneous action by moving a plastic cube and standing on it to obtain previously out-of-reach food.[169] After solving this problem once, he showed flexibility and generalization of the technique to other similar problems by using the same cube in different situations, or different objects in place of the

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[165] Bates & Byrne Aff. ¶ 47; McComb Aff. ¶ 41; Poole Aff. ¶ 39; Moss Aff. ¶ 35.

[166] *Id.*

[167] *Id.*

[168] McComb Aff. ¶ 42; Poole Aff. ¶ 40; Moss Aff. ¶ 36; Bates & Byrne Aff. ¶ 48 ("In cognitive psychology terms, insight is the ability to inspect and manipulate a mental representation of something, even when you can't physically perceive or touch the something at the time. Or more simply, insight is thinking and using only thoughts to solve problems.").

[169] Bates & Byrne Aff. ¶ 48; McComb Aff. ¶ 42; Poole Aff. ¶ 40; Moss Aff. ¶ 36.

cube when it was unavailable.[170] This experiment demonstrates that elephants can choose an appropriate action and incorporate it into a sequence of behavior to achieve a goal they kept in mind throughout the process.[171]

78. Asian elephants demonstrate the ability to understand goal-directed behavior.[172] When presented with food that was out of reach, but with some bits resting on a tray that could be pulled within reach, elephants learned to pull only those trays baited with food.[173] Success in this kind of "means-end" task demonstrates causal knowledge, which requires understanding not just that two events are associated with each other, but that some mediating force connects and affects the two which may be used to predict and control events.[174] Understanding causation and inferring object relations may be related to understanding psychological causation, which is an appreciation that others are animate beings who generate their own behavior and have mental states (e.g., intentions).[175]

79. Attempts to mitigate or eliminate human-elephant conflicts have been met with mixed success, in large part because elephants are able to respond and find ways around them.[176] For example, when electric fences are erected to keep elephants out of crop

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[170] *Id.*

[171] *Id.*

[172] Bates & Byrne Aff. ¶ 49; McComb Aff. ¶ 43; Poole Aff. ¶ 41; Moss Aff. ¶ 37.

[173] *Id.*

[174] *Id.*

[175] *Id.*

[176] Lindsay Aff. ¶ 29.

fields, elephants have responded to the hazard of electric shocks by handling the 'hot' wire with non-conducting tusks and breaking fences by pushing other elephants into them; both approaches demonstrate their higher cognitive ability and autonomy.[177] The most effective responses to human-elephant conflicts treat elephants as autonomous beings and work with their biological nature to achieve solutions that promote coexistence.[178] It is now increasingly recognized by conservation workers that coexistence can be achieved by humans entering into 'negotiation' with elephants.[179]

b. Zoo captivity is physically and psychologically harmful to elephants

80. Long-lived, large-brained mammals—like cetaceans and elephants—who possess large, complex brains integral to their intricate sociobehavioral existence cannot function normally in captivity.[180] Given that the brains of large mammals have a lot in common across species, "there is no logical reason to believe that the large, complex brains of animals such as elephants . . . would react any differently to a severely stressful environment than does the human brain."[181] Elephants experience permanent damage to their brains as a result of the trauma endured in impoverished environments.[182]

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[177] *Id.* at ¶ 31.

[178] *Id.* at ¶ 29.

[179] *Id.* at ¶ 33.

[180] Jacobs Aff. ¶¶ 7, 15.

[181] *Id.* at ¶ 13.

[182] *Id.* at ¶ 65, citing Bob Jacobs et al., *Putative neural consequences of captivity for elephants and cetaceans,* REVIEWS IN THE NEUROSCIENCES (2021), which notes:

81. An elephant's cerebral cortex is negatively affected by an impoverished environment.[183] These effects include "a thinner cerebral cortex, decreased blood supply, smaller neuronal cell bodies with few glial ('helper') cells for metabolic support, decreased dendritic branching for synthesizing information, fewer dendritic spines (indicating fewer connections with other neurons), and smaller, less efficient synapses."[184]

82. A crucial component to an enriched environment is exercise, which increases the supply of oxygenated blood to the brain and enhances cognitive abilities through a series of complex biochemical cascades.[185] Captive/impoverished elephants living in small enclosures are severely deprived of exercise, especially when one considers that elephants

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> In terms of behavior, a prevalent abnormality is stereotypic behavior, which consists of aberrant, repetitive movements (e.g., limb swaying, and rocking) induced by the frustration of natural impulses. It is estimated that 47–85% of elephants in zoos and 100% of those in circuses exhibit stereotypies. Captive elephants also exhibit hyperaggression, in part because there is no opportunity for physical distancing during heighted intragroup stress. Medically, captive elephants suffer from both gastrointestinal diseases and nutritional/metabolic disorders because of their captive diet and lack of exercise, with obesity being a serious issue. Across North American zoos, 74% of elephants were found to be overweight with 34% believed to be clinically obese. Skin issues (e.g., inflammation, lesions, and pressure sores) are common as are foot-related disorders (e.g., hyperkeratosis, cracked nails, and abscesses). Osteoarthritis in the feet, exacerbated by locomotor stereotypies and obesity, occurs prematurely in captive elephants and can lead to euthanasia. Finally, captive elephants are particularly susceptible to several infectious diseases (e.g., Mycobacterium tuberculosis, TB, the endotheliotropic herpesvirus, EEHV), which are highly contagious. TB is deadly in elephants and treatment is often unsuccessful.

Jacobs et al. at 4.

[183] *Id.* at ¶ 10.

[184] *Id.*

[185] *Id.* at ¶ 11.

in the wild travel tens of kilometers a day (sometimes more than 100 kilometers).[186] Captive/impoverished elephants possess cortical neurons that are "less complex, receive less metabolic support, and process information less efficiently than cortical neurons from animals in an enriched, more natural environment."[187]

83. Other areas of the elephant brain that are negatively affected by the chronic frustration, boredom, and stress rampant in captive/impoverished environments are two subcortical (beneath the cortex) brain structures known as the (1) hippocampus, which is involved primarily in declarative (i.e., facts and events) and spatial memory formation, and the (2) amygdala, which is involved in emotional processing.[188] Prolonged stress results in chronically elevated levels of glucocorticoids (stress hormones).[189] Chronic exposure to glucocorticoids contributes to wide-ranging neurodegeneration, including neuronal damage/death in the hippocampus, which results in memory deficits, as well as neuronal damage/death in the amygdala, which results in emotional processing deficits.[190]

84. In a natural environment, the body's stress-response system is designed for "quick activation" to escape dangerous situations; in captivity, where animals have a near total lack of control over their environment, there is no escape, and such situations foster

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[186] *Id.*

[187] *Id.*

[188] *Id.* at ¶ 12.

[189] *Id.*

[190] *Id.*

learned helplessness.[191] The stress that humans experience under similar conditions is associated with a variety of neuropsychiatric diseases such as anxiety/mood disorders, including major depression and post-traumatic stress disorder.[192]

85. Captivity and the psychological stress it engenders also have negative effects on the complex circuitry between the basal ganglia and cerebral cortex.[193] The basal ganglia regulates the two pathways involved in movement: the direct pathway and the indirect pathway.[194] Normal movement depends on a delicate balance between these two pathways, and stress can result in stereotypic behavior, which is invariably associated with an imbalance in the direct/indirect pathways.[195] Behavioral stereotypies may represent a coping strategy to mitigate the overwhelming effects of psychological stress.[196] As long as elephants have been studied in their natural habitats there has never been a recorded case of an elephant exhibiting such stereotypies, which reflects underlying disruptions of neural mechanisms in captive/impoverished elephants[197]

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[191] *Id.* at ¶ 13.

[192] *Id.*

[193] *Id.* at ¶ 14.

[194] *Id.*

[195] *Id.*

[196] *Id.*

[197] *Id.*

86. From a neural perspective, imprisoning elephants and putting them on display is "undeniably cruel."[198] Holding elephants captive and confined "prevents them from engaging in normal, autonomous behavior and can result in the development of arthritis, osteoarthritis, osteomyelitis, boredom, and stereotypical behavior."[199] When held in isolation, "elephants become bored, depressed, aggressive, catatonic, and fail to thrive."[200] And "[h]uman caregivers are no substitute for the numerous, complex social relationships and the rich gestural and vocal communication exchanges that occur between free-living elephants."[201]

c. The Fresno Zoo is an unacceptable place for elephants

87. Amahle, Nolwazi, and Vusmusi are not living any kind of life that is acceptable for an elephant.[202] Neither the indoor or outdoor facilities at the Fresno Zoo allow the elephants to fulfill their physical and psychological needs, including the need to exercise their autonomy.[203]

88. When Fresno Zoo staff go off duty, the elephants spend at least half their day and probably longer in the close confines of the indoor facility, which consists of a barn

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[198] *Id.* at ¶ 15.

[199] Poole Aff. ¶ 56.

[200] *Id.*

[201] *Id.*

[202] Lindsay Aff. ¶ 67.

[203] *Id.* at ¶ 50.

that is roughly 8,000 sq. ft. with concrete floors.[204] This is completely unsuitable for keeping the elephants confined for more than a few hours of any given day, as confinement for longer than a few hours each day is likely to lead to foot and joint damage from standing on the hard substrate.[205] On cold days, they are kept in the barn all day.[206] As elephants in the wild are actively moving for up to 18 hours of every 24-hour period, this involuntary confinement is both physically and psychologically harmful.[207] The confinement also deprives Amahle, Nolwazi, and Vusmusi of the basic need to decide how and where they spend their time.[208]

89. The Fresno Zoo's outdoor area available to the elephants is 3.87 acres, and the linear distance available for directional walking is little more than 100 yards, a tiny fraction of the miles that elephants cross daily in natural environments.[209] Elephants in the wild travel tens of kilometers a day (sometimes more than 100 kilometers).[210] Elephants have evolved to move, and they move many miles across landscapes to locate resources to maintain their large bodies, to connect with friends, and to search for mates.[211]

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[204] *Id.* at ¶ 62.

[205] *Id.* at ¶¶ 54-56.

[206] *Id.* at ¶ 62.

[207] *Id.*

[208] *Id.*

[209] *Id.* at ¶ 57.

[210] Jacobs Aff. ¶ 11.

[211] Poole Aff. ¶ 56.

90. The lives of Amahle, Nolwazi, and Vusmusi at the Fresno Zoo are nothing but a succession of boring and frustrating days, damaging to their bodies and minds, and punctuated only by interaction with their keepers.[212] The outdoor area's terrain is flat and unvarying, offering no stimulation or encouragement to explore.[213] There are a few boulders stuck in the ground, some trees which offer limited relief from the hot summer sun, two water features (neither of which are deep enough to support the elephants' body weight), and an artificial waterfall.[214] The landscaping may project a feeling of a quasi-natural environment to visitors, but the features fail to provide anything meaningful to the elephants in terms of alleviating the tedium of their sterile surroundings.[215] None of the Fresno Zoo's "enrichment" efforts, such as scattering food on the ground, provide much stimulation to the intellect of the elephants when compared to natural foraging challenges.[216]

91. Amahle, Nolwazi, and Vusmusi's behavioral repertoire is extremely limited.[217] As shown in video clips and photographs, when the elephants are not simply standing and feeding, they can be seen walking between the front and back yards on the same path every time.[218] There is no variety in their lives, no challenge to employ their

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[212] Lindsay Aff. ¶ 68.

[213] *Id.* at ¶ 60.

[214] *Id.*

[215] *Id.*

[216] *Id.* at ¶ 61.

[217] *Id.* at ¶ 63.

[218] *Id.*

mental capacity for exploration, spatial memory, or problem-solving.[219] There is no opportunity to employ their wide range of vocalizations, to communicate and interact with a range of other elephants over distance.[220]

92. The elephants with their acute hearing are also subjected to a sustained sensory onslaught at the Fresno Zoo.[221] There are major transportation arteries on all four sides of the zoo grounds, which include a freeway, four-lane roads, a double-track railway line, restaurants, and a nightclub.[222] The barn is a noisy place as the walls are flat concrete and reflect all sounds.[223] In addition, the demonstration shows given by zookeepers to a noisy public are undoubtedly disturbing to the elephants.[224]

d. An elephant sanctuary is the only acceptable place for Amahle, Nolwazi, and Vusmusi

93. For elephants in captivity, especially those born into it or kept there for a majority of their lives, going back to the wild is unfortunately not an option.[225] Human-run sanctuaries are therefore the best option for the relocation of captive elephants.[226] The

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[219] *Id.*

[220] *Id.*

[221] *Id.* at ¶ 53.

[222] *Id.* at. ¶¶ 52-53.

[223] *Id.* at ¶ 54.

[224] *Id.* at ¶ 63.

[225] Poole Aff. ¶ 57.

[226] *Id.*

reasons for this relate to the orders of magnitude of greater space that is offered at sanctuaries.[227] Such space allows elephants to exercise their autonomy, develop more healthy social relationships, and to engage in a near-natural movement, foraging, and repertoire of behavior.[228] Elephants need a choice of social partners, and the space to permit them to be with the ones they want, when they want, and to avoid particular individuals, when they want.[229]

94. Amahle, Nolwazi, and Vusmusi's physical and psychological health have been severely compromised by the sustained deprivation of their autonomy and freedom of movement.[230] They are not living an acceptable life for an elephant and therefore should be sent to a suitable elephant sanctuary where they can lead successful and fulfilling lives.[231]

95. Elephants with serious physical or psychological problems in zoos have usually become more normal functioning when given more appropriate space in an elephant sanctuary.[232] For example:

- Maggie was considered to be an anti-social, aggressive elephant and by the time she was moved from the Alaska Zoo to the Performing Animal Welfare Society ("PAWS") she was in such poor condition she could barely stand. She

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[227] *Id.*

[228] *Id.*

[229] *Id.* at ¶ 58.

[230] Lindsay Aff. ¶ 68.

[231] *Id.* at ¶¶ 67-70.

[232] Poole Aff. ¶ 60.

is now a thriving, socially active elephant and considered to be PAWS' most social elephant.[233]

- Ruby was transferred from the Los Angeles Zoo in California to the Knoxville Zoo in Tennessee where she did not successfully integrate with the Knoxville elephants. When she was moved to PAWS, she integrated easily with the other elephants and has become a respected leader of her group.[234]
- Sissy is another classic example: she had been transferred four times and had spent a decade and a half alone before being sent to the Houston Zoo where she was labeled autistic and antisocial. She was returned to her solitary zoo where she killed a person, which resulted in her being moved to the El Paso Zoo where she was beaten because she was a killer elephant. In 2000 she was transferred to The Elephant Sanctuary in Tennessee ("TES") and within six months of arrival she was calm and cooperative, becoming a leader and putting all elephants at ease. In 2000 the United States Department of Agriculture had given Sissy only a year to live; twenty years later she is still going strong.[235]
- Bunny was 47 years old and had spent 40 years alone when she arrived at

[233] *Id.* at ¶ 61.

[234] *Id.* at ¶ 62.

[235] *Id.* at ¶ 63.

TES. She had been transferred four times and had only known less than a half-acre exhibit. Within 24 hours of arriving at the sanctuary she was completely and seamlessly integrated into the group.[236]

- Maia and Guida, the first two elephants at Santuário de Elefantes Brasil, had lived together for 40 years. For most of these years Maia was aggressive to Guida, knocking her over, pushing her down and pinning her to the ground. Within 12 hours of arriving at the sanctuary the gates were opened between the two elephants and from that day forward no further aggression was seen.[237]

VI. This Court must issue a writ of habeas corpus as the Petition states a prima facie case for relief.

96. The "issuance of a writ of habeas corpus or an order to show cause is an intermediate but nonetheless vital step in the process of determining whether the court should grant the affirmative relief that the petitioner has requested. The function of the writ or order is to 'institute a proceeding in which issues of fact are to be framed and decided.'" *Romero*, 8 Cal.4th at 740 (citation omitted). This determination "is truly 'preliminary': it is only initial and tentative, and not final and binding." *In re Large* (2007) 41 Cal.4th 538, 549 (citation and internal quotations omitted); see also Cal. Rules of Court 4.551(c)(3) ("An order to show cause is a determination that the petitioner has made a showing that he or she may be entitled to relief. It does not grant the relief sought in the petition.").

[236] *Id.* at ¶ 64.

[237] *Id.* at ¶ 65.

97. For purposes of issuing the writ, this Court does not need to determine whether Amahle, Nolwazi, and Vusmusi have the common law right to bodily liberty protected by habeas corpus. This Court must assume, without deciding, that Amahle, Nolwazi, and Vusmusi have this right.

98. Historically, writs of habeas corpus were issued on behalf of individuals whose right to bodily liberty was not previously recognized. For example, in *In re Perkins* (1852) 2 Cal. 424, 429, the Court issued a writ of habeas corpus on behalf of three Black slaves brought to California from out of state, although it subsequently determined that the slaves were not entitled to their freedom and remanded them to their owner. Similarly, in *Matter of Archy* (1858) 9 Cal. 147, 147, the Court issued a writ of habeas corpus on behalf of Archy Lee, a Black slave brought to California from out of state, although it subsequently remanded Archy to the custody of his owner.[238] In the landmark case of *Somerset v. Stewart* (K.B. 1772) 1 Lofft. 1, 98 Eng. Rep. 499 (hereafter *Somerset*), available at: https://bit.ly/3jpLmkH, Lord Mansfield assumed, without deciding, that the Black slave James Somerset could possess the common law right to bodily liberty protected by habeas corpus when he famously issued the writ requiring the respondent to justify Somerset's detention.[239] In *In re Kirk*, 1 Edm.Sel.Cas. at 332, the court recognized its duty to issue the writ on behalf of an enslaved Black child confined on a docked ship by a Georgia

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[238] Archy's "attorney had won the Supreme Court case on the law, but lost it on the final order delivered by the judges." BRIAN MCGINTY, ARCHY LEE'S STRUGGLE FOR FREEDOM: THE TRUE STORY OF CALIFORNIA GOLD, THE NATION'S TRAGIC MARCH TOWARD CIVIL WAR, AND A YOUNG BLACK MAN'S FIGHT FOR LIBERTY 1, 58 (2019).

[239] *Somerset* is part of California common law. See, *infra*, ¶ 109.

slaveholder: "I was bound to allow the writ of habeas corpus, even if I had been fully convinced of the legality of the imprisonment; and . . . it becomes my duty to consider and decide it--a duty from which I am not at liberty to shrink." The court added: "I approach this with all the caution becoming the gravity of the case, yet with a lively sense of what is due to personal liberty." *Id.* at 335.[240]

99. More recently, courts have issued writs of habeas corpus on behalf of nonhuman animals. In 2015, the NhRP secured the first-ever habeas corpus order to show cause[241] on behalf of a nonhuman animal in the United States when the court demanded that New York State justify its imprisonment of the chimpanzees Hercules and Leo. *Stanley*, 49 Misc.3d at 755 ("Given the important questions raised here, I signed the petitioner's order to show cause, and was mindful of petitioner's assertion that 'the court need not make an initial judicial determination that Hercules and Leo are persons in order to issue the writ and show cause order.'").[242]

100. In 2018, the NhRP secured the world's first habeas corpus order to show cause on behalf of an elephant when a court in Orleans County, New York demanded that the Respondents justify their long imprisonment of an Asian elephant named Happy at the

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[240] See also *Lemmon*, 20 N.Y. at 564; *Aves*, 35 Mass. at 193; *Jackson v. Bulloch* (1837) 12 Conn. 38, 39; *Republica v. Blackmore* (Pa. 1797) 2 Yeates 234.

[241] As in California, a New York "order to show cause" is used interchangeably with "a writ of habeas corpus." See CPLR § 7003(a).

[242] See also Chris Hegedus and DA Pennebaker, *Unlocking The Cage* (2016) (documentary film showing oral argument before the trial court, where Justice Barbara Jaffe stated: "We are here for oral argument by the lawyers in this case . . . I thus signed the order [to show cause] in anticipation of hearing both sides address the procedural and substantive issues raised.").

Bronx Zoo.[243] Following a transfer of venue, a trial court heard thirteen hours of oral argument over three days and concluded that the NhRP's arguments were "extremely persuasive for transferring Happy from her solitary, lonely one-acre exhibit at the Bronx Zoo, to an elephant sanctuary on a 2300 acre lot." *Breheny (Trial Court)*, 2020 WL 1670735 at *10. Based on six uncontroverted "expert scientific affidavits from five of the world's most renowned experts on the cognitive abilities of elephants," the trial court found that Happy is an "extraordinary animal with complex cognitive abilities, an intelligent being with advanced analytic abilities. . . . She is an intelligent autonomous being who should be treated with respect and dignity, and who may be entitled to liberty." *Id.* However, the trial court "[r]egrettably" believed it was bound by prior decisions. *Id.* at *9.

101. In 2021, the New York Court of Appeals granted leave to hear the NhRP's appeal on behalf of Happy. *Breheny*, 36 N.Y.3d at 912. This marked the first time in history that the highest court of any English-speaking jurisdiction will hear a habeas corpus case brought on behalf of a nonhuman animal.[244]

102. At the preliminary stage of a habeas corpus proceeding, a court "is obligated by statute to issue a writ of habeas corpus" if the petition states a prima facie case for relief. *Romero*, 8 Cal.4th at 737 (citing Cal. Penal Code § 1476). A petition states a prima facie

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243 Mallory Diefenbach, *Orleans County issues first habeas corpus on behalf of elephant*, THE DAILY NEWS (Nov. 21, 2018), https://bit.ly/3AwkCWV; Andrea Morris, *Judge To Rule On Historic Case Of Whether An Elephant Is A Person*, FORBES (Nov. 19, 2018), https://bit.ly/2Z4MCmx; Debra Cassens Weiss, *Judge takes first step to decide whether Happy the elephant should be released from Bronx Zoo*, ABA J. (Nov. 20, 2018), https://bit.ly/3EnKSVv.

244 See Joel Shannon, *Case asking courts to free elephant 'imprisoned' in Bronx Zoo heads to New York's highest court*, USA TODAY (May 4, 2021), https://bit.ly/3tOg37N.

case when it "allege[s] unlawful restraint, name[s] the person by whom the petitioner is so restrained, and specif[ies] the facts on which he bases his claim that the restraint is unlawful." *In re Lawler* (1979) 23 Cal.3d 190, 194 (citing Cal. Penal Code § 1474); *Romero*, 8 Cal.4th at 737 (same). Pursuant to Cal. Rules of Court 4.551(c)(1), "the court takes petitioner's factual allegations as true and makes a preliminary assessment regarding whether the petitioner would be entitled to relief if his or her factual allegations were proved."[245] The burden then shifts to Respondents to "submit a written return justifying the petitioner's imprisonment or other restraint on his or her liberty."[246] *Romero*, 8 Cal.4th at 738 (citing Cal. Penal Code § 1480).

103. In accordance with *Lawler* and *Romero*, this Petition (1) alleges that Respondents' imprisonment of Amahle, Nolwazi, and Vusmusi is unlawful because the imprisonment violates the elephants' common law right to bodily liberty protected by habeas corpus (*supra*, ¶ 5), (2) names Fresno's Chaffee Zoo Corporation and John Forrest Dohlin as the Respondents (*supra*, ¶ 30), and (3) specifies that Respondents' imprisonment of Amahle, Nolwazi, and Vusmusi violates the elephants' common law right to bodily liberty protected by habeas corpus because it deprives them of their ability to meaningfully exercise their autonomy and extraordinary cognitive complexity, including the freedom to

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[245] See also Cal. Rules of Court 4.545(2) (the "order to show cause is issued if the petitioner has made a prima facie showing that he or she is entitled to relief").

[246] If "the return and traverse reveal that petitioner's entitlement to relief hinges on the resolution of factual disputes, then the court should order an evidentiary hearing." *Romero*, 8 Cal.4th at 739-40.

choose where to go, what to do, and whom to be with (*supra,* ¶ 5). As the Petition states a prima facie case for relief, this Court must issue the writ of habeas corpus.

104. It would be a "refusal to confront a manifest injustice" if this Court does not issue the writ. *Tommy*, 31 N.Y.3d at 1059 (Fahey, J. concurring).

VII. Habeas corpus is part of California common law and must evolve to remedy unjust infringements upon liberty

105. "It is settled that the 'law' of this state includes the common law," *Rojo v. Kliger* (1990) 52 Cal.3d 65, 74, which "is collected from the reports of the decisions of the courts, and the treatises of learned men." Cal. Civ. Proc. Code § 1899. The common law of England is part of California common law. See Cal. Civ. Code § 22.2

106. "The writ of habeas corpus was developed under the common law of England 'as a legal process designed and employed to give summary relief against illegal restraint of personal liberty,'" and "continues to serve this purpose today under our law." *Romero*, 8 Cal.4th at 736-37 (citations omitted). Habeas corpus "has been available to secure release from unlawful restraint since the founding of the state." *In re Clark* (1993) 5 Cal.4th 750, 764 (1993) (citing, inter alia, *Queen of the Bay*, 1 Cal. 157). "Often termed the Great Writ, it has been justifiably lauded as the safe-guard and the palladium of our liberties . . . and was considered by the founders of this country as the highest safeguard of liberty." *People v. Villa* (2009) 45 Cal.4th 1063, 1068 (hereafter *Villa*) (internal quotation marks and citations omitted).

107. "[H]abeas corpus 'is not now and never has been a static, narrow, formalistic remedy; its scope has grown to achieve its grand purpose—the protection of individuals

against erosion of their right to be free from wrongful restraints upon their liberty.'" *Villa*, 45 Cal.4th at 1073 (citation omitted). "The very nature of the writ demands that it be administered with the initiative and flexibility essential to insure that miscarriages of justice within its reach are surfaced and corrected." *In re Brindle* (1979) 91 Cal.App.3d 660, 669-70 (citation and internal quotations omitted).[247]

108. For example, the famous English case of *Somerset* powerfully demonstrates how common law habeas corpus can evolve to remedy a grave injustice. It was brought on behalf of the Black slave, James Somerset, who was being privately detained by his master, Charles Stewart. 1 Lofft. at 19. Lord Mansfield ruled that "[t]he state of slavery is . . . so odious, that nothing can be suffered to support it" under the common law, and ordered James Somerset freed.[248] *Id*. High court habeas corpus decisions of sister states have relied upon *Somerset* to secure the freedom of enslaved humans. See, e.g., *Lemmon*, 20 N.Y, at 604-06, 623; *Jackson v. Bulloch* (1837) 12 Conn. 38, 41, 42, 53; *Aves*, 35 Mass. at 211, 212.[249]

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[247] California courts have "broaden[ed] the use of the writ of habeas corpus." *Ex parte Maro* (1952) 248 P.2d 135, 139. See also *In re Wessley W.* (1981) 125 Cal.App.3d 240, 246 ("decisional law of recent years has expanded the writ's application to persons who are determined to be in constructive custody").

[248] Lord Mansfield famously stated, "fiat justitia, ruat ccelum" (let justice be done though the heavens may fall). 1 Lofft. at 17. "The heavens did not fall, but certainly the chains of bondage did for many slaves in England." Paul Finkelman, *Let Justice Be Done, Though the Heavens May Fall: The Law of Freedom*, 70.2 CHI.-KENT L. REV. 326 (1994).

[249] In addition to *Lemmon*, other New York courts have used common law habeas corpus to recognize the right to bodily liberty of enslaved humans and to secure their freedom. See *In re Belt* (N.Y. Sup. Ct. 1848) 2 Edm.Sel.Cas. 93; *In re Kirk*, 1 Edm.Sel.Cas. at 315.

109. *Somerset* is part of California law. On April 13, 1850, the California legislature passed "[a]n act adopting the common law," which stated: "[t]he common law of England, so far as it is not repugnant to or inconsistent with the Constitution of the United States, or the Constitution or laws of the state of California, shall be the rule of decision in all the courts of this state." *Lux v. Haggin* (1886) 69 Cal. 255, 337 (hereafter *Lux*) (citation and internal quotations omitted); Cal. Civ. Code § 22.2 (same). Importantly, the "legislature in its use of the phrase 'common law' had in contemplation the whole body of that jurisprudence as it stood, influenced by s[ta]tute, at the time when the code section was adopted [on April 13, 1850]." *Martin v. Sup. Ct. of Cal. in & for Alameda Cnty*. (1917) 176 Cal. 289, 293 (hereafter *Martin*).

110. "In ascertaining the common law of England we may and should examine and weigh the reasoning of the decisions, not only of the English courts, but also of the courts of the United States, and of the several states, down to the present time." *Lux*, 69 Cal. 255 at 379-80 (italics omitted).

VIII. This Court must change the common law based on science, justice, reason, ethics, fairness, equality, equity, policy, and progress of society

111. Nonhuman animals have long been regarded as "merely things—often the objects of legal rights and duties, but never the subjects of them." JOHN SALMOND, JURISPRUDENCE 319 (10th ed. 1947). Amahle, Nolwazi, and Vusmusi now come before this Court as rightless "things" asking this Court to change their common law status to "persons" with the common law right to bodily liberty protected by habeas corpus. See

Tommy, 31 N.Y.3d at 1059 (Fahey, J., concurring) ("there is no doubt that [a chimpanzee] is not merely a thing.").

112. "The inherent capacity of the common law for growth and change is its most significant feature" and "is the peculiar boast and excellence of the common law." *Rodriguez v. Bethlehem Steel Corp* (1974) 12 Cal.3d 382, 394 (internal quotations and citations omitted) (hereafter *Rodriguez*). California courts may not "abdicate their responsibility for the upkeep of the common law." *People v. Pierce* (1964) 61 Cal.2d 879, 882; *Rodriguez*, 12 Cal.3d at 393 (same).

113. California courts look to science, justice, reason, ethics, fairness, equality, equity, policy, and new conditions and progress of society in determining whether the common law must change. Applying any of these nine considerations, this Court must recognize Amahle, Nolwazi, and Vusmusi's common law right to bodily liberty protected by habeas corpus as a matter of liberty (*infra*, ¶¶ 136-142) and as a matter of equality (*infra*, ¶¶ 143-162).

a. Science

114. The common law must reflect "knowledge as deep as the science . . . of the [] day." *Nestle v. City of Santa Monica* (1972) 6 Cal.3d 920, 924 (citation omitted).

115. It has long been believed that nonhuman animals are unable to think, believe, remember, reason, and experience emotion.[250] But the evidence produced "by some of the most prominent elephant scientists in the world" proves that belief is wrong, at least for

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[250] RICHARD SORABJI, ANIMAL MINDS & HUMAN MORALS: THE ORIGINS OF THE WESTERN DEBATE 1-96 (1993).

elephants. *Breheny (Trial Court)*, 2020 WL 1670735 at *6. Accordingly, the time has come for this Court to change the common law to reflect the modern understanding that elephants are autonomous and extraordinarily cognitively complex beings.

116. In *Breheny (Trial Court)*, the NhRP placed before the court "five deeply educated, independent, expert opinions, all firmly grounded in decades of education, observation, and experience. In great detail, these opinions carefully demonstrate that elephants are autonomous beings possessed of extraordinary cognitively complex minds."[251] *Id.* Based on the expert opinions, the court found that the elephant, Happy, is an "extraordinary animal with complex cognitive abilities, an intelligent being with advanced analytic abilities akin to human beings. . . . She is an intelligent, autonomous being who should be treated with respect and dignity, and who may be entitled to liberty." *Id.* at *10.[252]

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[251] "A deepening pool of scientific research gives clear evidence that elephants and other animals are smarter, more aware, and more emotional than previously thought. . . . Elephants are intelligent and empathetic. They use tools, have close family ties, comfort their friends, and even appear to mourn their dead." Rachel Fobar, *A person or a thing? Inside the fight for animal personhood*, NAT. GEO (Aug. 4, 2021), https://on.natgeo.com/3Fqukwg. One of many examples showing the advanced cognition of elephants can be seen in the response elephants have to the murder of their own kind. Specifically, "[a] herd as far away as a hundred miles from a cull – the brutal practice of gunning down elephants in those areas where their numbers interfere with human settlements – can both emit and hear alarm calls outside our ears' register about the unfolding cataclysm. In the aftermath of such slaughters, when the body parts are locked away in sheds for later sale, other elephants have been known to return to break in and retrieve the remains for proper burials." Siebert, https://nyti.ms/3qmjuRJ.

[252] "More recently, hard science has begun to reveal just how radically the elephant's outwardly plodding appearance belies the exquisiteness of its senses and sensibilities. Neuroimaging has shown that elephants possess in their cerebral cortex the same elements of neural wiring we long thought exclusive to us, including spindle and pyramidal neurons, associated with higher cognitive functions like self-recognition, social awareness and language. This same circuitry, of course, renders elephants susceptible to the various psychic pathologies that afflict imprisoned humans: extreme boredom and depression,

117. Similarly, Judge Eugene Fahey of the New York Court of Appeals stated that the answer to the question of “whether [a chimpanzee] has the right to liberty protected by habeas corpus . . . . will depend on our assessment of the intrinsic nature of chimpanzees as a species.” *Tommy*, 31 N.Y.3d at 1057 (Fahey, J., concurring). Citing the NhRP’s expert affidavits from eminent primatologists, Judge Fahey presented a detailed summary of the modern understanding of chimpanzees’ “advanced cognitive abilities,” and also referenced “recent evidence that chimpanzees demonstrate autonomy by self-initiating intentional, adequately informed actions, free of controlling influences.” *Id.* at 1058. Judge Fahey concluded, “there is no doubt that [a chimpanzee] is not merely a thing.” *Tommy*, 31 N.Y.3d at 1059 (Fahey, J., concurring).

118. In 2012, the Los Angeles Superior Court recognized the significance of the science regarding elephant autonomy in a case about the three elephants living at the Los Angeles Zoo. Nicole Pallotta, *California Supreme Court Reverses Protections for Elephants Confined at Los Angeles Zoo*, ALDF (Sep. 8, 2017), https://bit.ly/3pVqshm. Following a bench trial, Judge John Segal characterized the senior elephant keeper’s lack of knowledge about the elephants’ behavior as “particularly disturbing” and an “anthropomorphic fantasy,” while calling Dr. Joyce Poole,[253] whose testimony refuted the senior elephant

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stereotypical behaviors like manic pacing and rocking and heightened aggression.” Siebert, https://nyti.ms/3qmjuRJ.

[253] Dr. Poole is a foremost expert in elephant behavior with over fifty years of experience studying elephants. See Natalie Angier, *What Has Four Legs, a Trunk and a Behavioral Database?*, N.Y. TIMES (June 4, 2021), https://nyti.ms/3pl5ZCt (discussing Dr. Poole and her life’s work); Virginia Morell, *What are elephants really ‘saying?’ First-ever library reveals communication mysteries*, NAT. GEO. (May 25, 2021), https://on.natgeo.com/3qdhV8y (same); Dr. Joyce Poole and Petter Granli, *The Elephant*

keeper's statements, "the most credible witness" at the trial. *Id.* Judge Segal added that "**[c]aptivity is a terrible existence** for any intelligent, self-aware species, which the undisputed evidence shows elephants are. **To believe otherwise** as some high-ranking zoo employees appear to believe, **is delusional**." *Id.* (emphasis added). He concluded his opinion by noting that the elephants' existence was "empty, purposeless, boring, and occasionally painful." *Id*.[254]

b. Justice, Reason, Ethics, Fairness, Equality, Equity, and Policy

119. California common law is "the embodiment of broad and comprehensive unwritten principles," *Rodriguez*, 12 Cal.3d at 393, arising from the application of justice, reason, ethics, fairness, equality, equity, and policy. See *id.* (common law is "inspired by natural reason and an innate sense of justice"); *Green v. Sup. Ct.* (1974) 10 Cal.3d 616, 640 ("In taking a similar step today, we . . . merely follow the well-established duty of common law courts to reflect contemporary social values and ethics."); *Isrin v. Sup. Ct. of L.A. Cnty.* (1965) 63 Cal.2d 153, 165 ("To the extent that *Gomez* thus has the practical effect of restricting an indigent's access to the courts because of his poverty, it contravenes the fundamental notions of equality and fairness which since the earliest days of the common law have found expression in the right to proceed in forma pauperis."); *Martin,* 176 Cal. at 293 (equity is "the great handmaiden and coadjutor of the common law"); *James v.*

Ethogram, ELEPHANTVOICES (2021), https://bit.ly/3qkupLK (Dr. Poole's life's work in an easily searchable database).

[254] The California Supreme Court reversed on legal grounds because "the Legislature did not intend to overturn the long-established law governing equitable relief for violations of penal law . . . ." *Leider v. Lewis* (2017) 2 Cal.5th 1121, 1137.

Marinship Corp. (1944) 25 Cal.2d 721, 740 (hereafter *James*) ("The analogy of the public service cases not only demonstrates a public policy against racial discrimination but also refutes defendants' contention that a statute is necessary to enforce such a policy where private rather than public action is involved.").[255]

120. "Justice" is "[t]he quality of being fair or reasonable." BLACK'S LAW DICTIONARY (11th ed. 2019). "[L]aw cannot be divorced from morality in so far as it clearly contains . . . the notion of right to which the moral quality of justice corresponds."[256] *Id.* (quoting PAUL VINOGRADOFF, COMMON SENSE IN LAW 19-20 (H.G. Hanbury ed., 2d ed. 1946)). Indeed, whether habeas corpus applies to an autonomous and extraordinarily

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[255] See also *Rodriguez*, 12 Cal.3d at 394 ("'Whenever an old rule is found unsuited to present conditions or unsound, it should be set aside and a rule declared which is in harmony with those conditions and meets the demands of justice.'") (citation omitted); *id.* (Courts must "remain alert to their obligation and opportunity to change the common law when reason and equity demand it."); *Katz v. Walkinshaw* (1903) 141 Cal. 116, 123 ("The true doctrine is that the common law by its own principles adapts itself to varying conditions, and modifies its own rules so as to serve the ends of justice under the different circumstances."); *Dillon v. Legg* (1968) 68 Cal.2d 728, 748 ("To deny recovery would be to chain this state to an outmoded rule of the 19th century which can claim no current credence. No good reason compels our captivity to an indefensible orthodoxy."); *Cnty. Sanitation Dist. No. 2 v. L.A. Cnty. Employees Assn.* (1985) 38 Cal.3d 564, 567 (hereafter *Cnty. Sanitation*) ("After careful review of a long line of case law and policy arguments, we conclude that the common law prohibition against all public employee strikes is no longer supportable.").

[256] See BENJAMIN CARDOZO, THE NATURE OF THE JUDICIAL PROCESS 150 (1921) ("I think that when a rule, after it has been duly tested by experience, has been found to be inconsistent with the sense of justice . . . there should be less hesitation in frank avowal and full abandonment."); Jack B. Weinstein, *Every Day Is a Good Day for a Judge to Lay Down His Professional Life for Justice*, 32 FORDHAM URB. L.J. 131, 131 (2004) (The "moral judge" "embraces his professional life most fully when he is prepared to fight—and be criticized or reversed—in striving for justice.").

cognitively complex nonhuman animal is a question "of precise moral and legal status." *Tommy*, 31 N.Y.3d at 1057 (Fahey, J., concurring).

121. Judge Fahey recognized that "ethics and policy" must be considered when answering the question of whether "an intelligent nonhuman animal who thinks and plans and appreciates life as human beings do" has the right to liberty protected by habeas corpus. *Tommy*, 31 N.Y.3d at 1058 (Fahey, J., concurring). He continued:

> To treat a chimpanzee as if he or she had no right to liberty protected by habeas corpus is to regard the chimpanzee as entirely lacking independent worth, as a mere resource for human use, a thing the value of which consists exclusively in its usefulness to others. Instead, we should consider whether a chimpanzee is an individual with inherent value who has the right to be treated with respect (see generally Regan, The Case for Animal Rights 248-250).

Id. The same applies to Amahle, Nolwazi and Vusmusi.

122. Respondents' imprisonment of Amahle, Nolwazi, and Vusmusi is unjust, unreasonable, unethical, inequitable, and unfair because it deprives them of their ability to travel, forage, communicate, socialize, plan, live, choose, and thrive as elephants should—in other words, to be autonomous. There is no basis in policy for this Court to not recognize the elephants' common law right to bodily liberty protected by habeas corpus. This Court, therefore, has the duty to change the common law so that these extraordinary cognitively complex and autonomous beings spend the rest of their lives in an elephant sanctuary where their autonomy will be respected to the greatest extent possible.[257]

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[257] "In the common-law system, there is often not a sharp boundary between doctrine and policy – that is, between existing law ('what do the cases say?') and an analysis of the social effects of the law ('what legal rule would be a good idea in our society?'). In fact, considerations of policy – along with other types of analysis, like considerations of morality and experiential knowledge – are one of the primary motivations for the creation and ongoing development of legal doctrine." SHAWN BAYERN, AUTONOMOUS ORGANIZATIONS

c. Progress of Society

123. The California Supreme Court has long made clear that the common law is "constantly expanding and developing in keeping with advancing civilization and the new conditions and progress of society." *Rodriguez*, 12 Cal.3d at 394 (citation omitted). "The nature of the common law requires that each time a rule of law is applied, it be carefully scrutinized to make sure that the conditions and needs of the times have not so changed as to make further application of it the instrument of injustice." *Id.*[258]

124. Society is evolving in its recognition that elephants should not be kept in captivity. Amahle, Nolwazi, and Vusmusi's imprisonment conflicts with society's evolution.

125. Since 1991, more than thirty American zoos have closed their elephant exhibits, or are in the process of doing so. *Closed or closing elephant zoo exhibits*, IN DEFENSE OF ANIMALS, https://bit.ly/30P8hjI.[259] For example, Lion Country Safari closed its elephant exhibit in 2006, explaining that "[i]f we can't keep elephants in captivity properly,

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135-36 (2021) (citing MELVIN EISENBERG, THE NATURE OF THE COMMON LAW 14-19 (1988)).

[258] See also *Rowland v. Christian* (1968) 69 Cal.2d 108, 117 ("Whatever may have been the historical justifications for the common law distinctions [regarding a trespasser, licensee, or invitee], it is clear that those distinctions are not justified in the light of our modern society and that the complexity and confusion which has arisen is not due to difficulty in applying the original common law rules—they are all too easy to apply in their original formulation—but is due to the attempts to apply just rules in our modern society within the ancient terminology.").

[259] San Francisco effectively banned the keeping of elephants at the San Francisco Zoo by requiring that they need a minimum of 15 acres. S.F., CA, PARK CODE, art. 5, § 5.09 (2004), https://bit.ly/3FolZsT.

we shouldn't . . . . And we've proven that we can't."[260] Jill Lepore, *The Elephant Who Could Be A Person*, THE ATLANTIC (Nov. 16, 2021), https://bit.ly/3oDpw0M.

126. The horrifying effects of captivity on elephants have been well documented:

> [S]tudies have shown that . . . 85 percent of zoo elephants have displayed compulsive behaviors or stereotypies. Elephants are particularly unhappy in zoos, given their great size, social nature and cognitive complexity. Many suffer from arthritis and other joint problems from standing on hard surfaces; elephants kept alone become desperately lonely; and all zoo elephants suffer mentally from being cooped up in tiny yards while their free-ranging cousins walk up to 50 miles a day. Zoo elephants tend to die young.

Emma Marris, *Modern Zoos Are Not Worth the Moral Cost*, N.Y. TIMES (June 11, 2021), https://nyti.ms/33ESIw3.[261]

127. Dr. Joyce Poole explained that "[w]hen you try and take an elephant and put it behind bars in an urban setting, it's just a recipe for disaster . . . . As you can imagine if you were locked behind bars, there's not much to do." Melissa Chan, *In a Legal First, a Court*

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[260] A "2012 Seattle Times investigation found that 390 elephants had died in accredited zoos in the previous 50 years, a majority of them from captivity-related injuries and diseases." Siebert, https://nyti.ms/3qmjuRJ. Yet, "the biggest threat by far has proved to be the preternaturally low birthrate of captive elephants. One of the more disturbing manifestations of zoo-elephant psychosis is the high incidence of stillbirths and reproductive disorders among pregnant mothers." *Id.* "Even when births are successful, there are often instances not only of infant mortality but also of calf rejection and infanticide, something *almost never* witnessed in thousands of studies of wild elephant herds." *Id.* (emphasis added).

[261] "The physical ailments that afflict captive elephants — foot sores and infections, joint disorders, a high incidence of tuberculosis — have been well known for years. But what we've come to learn about the inner workings of the elephant's psyche has now helped zoo designers and ardent anti-zoo activists alike to codify what has been observed and intuited for centuries." Charles Siebert, *Zoos Called It a 'Rescue.' But Are the Elephants Really Better Off?*, N.Y. TIMES (July 9, 2019), https://nyti.ms/3qmjuRJ. See also Chan, https://bit.ly/3soB36l ("[E]lephants' lives at the zoo don't come close to the ones they are capable of having. In the wild, elephants can roam 30 miles each day with their families, Poole says. They're animated, constantly touching and interacting with the families they're born into, and autonomous.").

Will Decide if an Elephant Deserves the Same Rights as a Person, TIME (Oct. 21, 2021), https://bit.ly/3soB36l.

128. In writing about Happy's habeas corpus case, legal historian Jill Lepore[262] stated that Happy's "misery comprises forms of distress that many humans, just now, understand better than they used to. In this 21st-century *Planet of the Apes* moment, humans have so ravaged the planet that many feel themselves caged, captive, isolated, and alone, dreading each dawn . . . seeing in Happy a reflection of their own despair." Lepore, https://bit.ly/3oDpw0M. In a radio interview, Lepore added, "I'm not an animal rights person . . . this is not my cause . . . but in looking at [Happy's] case carefully, [I] believe it is a necessary part of the political journey and the history of humankind toward granting rights to more than just the people in power. . . . We are in a long moral journey as a species and I think we have taken some terribly, terribly bad turns on this road. So this is a turn in the road we need to look at carefully."[263] Jill Lepore (interviewed by Melissa Harris-Perry), *Happy the Elephant Could Change the Face of Animal* Rights, WYNC STUDIOS: THE TAKEAWAY (Dec. 14, 2021), https://bit.ly/3s3CJlw.

129. One hundred and forty-six distinguished scholars, experts, philosophers, lawyers, and theologians have submitted amicus briefs to the New York Court of Appeals in

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[262] Jill Lepore is a prize-winning professor of American History at Harvard University, an award-winning author, a staff writer at *The New Yorker*, a prolific essayist, and a past president of the Society of American Historians, among other notable achievements. *Biography*, HARVARD UNIVERSITY, https://bit.ly/3t1rwCr.

[263] A Change.org petition to free Happy has gathered nearly 1.4 million signatures, of which almost 1 million have been added since the NhRP filed its habeas petition on behalf of Happy. Available at: https://bit.ly/3qgkxlY. The oral argument in *Breheny (First Dept.)* has over 3,100 views on YouTube. Available at: https://bit.ly/30JM72m.

support of Happy's freedom to an elephant sanctuary. They are constitutional law scholars Laurence H. Tribe, Sherry F. Colb, and Michael C. Dorf;[264] habeas corpus experts Justin Marceau, Samuel Wiseman, Hollis Whitson, Gail Johnson, Jane Byrialsen, and David Fisher;[265] retired Justice of the Constitutional Court of South Africa, Edwin Cameron;[266] retired Justice of the Supreme Court of India, K.S. Panicker Radhakrishnan;[267] philosopher Martha Nussbaum;[268] philosopher Christine M. Korsgaard;[269] three Buddhist scholars;[270] five Catholic Theologians;[271] thirty-four Jewish Scholars;[272] five Eastern Orthodox Theologians;[273] fourteen philosophers;[274] thirty-six legal academics, barristers, and solicitors from the United Kingdom;[275] a group of twenty-seven law professors from across

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[264] Br. of *Amici Curiae* Laurence H. Tribe, Sherry F. Colb, and Michael Dorf, https://bit.ly/3mOxJON.

[265] Br. of *Amici Curiae* Habeas Corpus Experts, https://bit.ly/3q4RsLN.

[266] Br. of *Amicus Curiae* Edwin Cameron, https://bit.ly/3BFkmEE.

[267] Br. of *Amicus Curiae* K.S. Panicker Radhakrishnan, https://bit.ly/3xDtvzi.

[268] Br. of *Amicus Curiae* Professor Martha C. Nussbaum, https://bit.ly/3bAQTRC.

[269] Br. of *Amicus Curiae* Professor Christine M. Korsgaard, https://bit.ly/3ydelip.

[270] Br. of *Amici Curiae* Buddhist Scholars, https://bit.ly/31ERznP.

[271] Br. of *Amici Curiae* Catholic Theologians, https://bit.ly/3oJOH1G.

[272] Br. of *Amici Curiae* Jewish Scholars, https://bit.ly/3uRULrK.

[273] Br. of *Amici Curiae* Eastern Orthodox Theologians, https://bit.ly/3xCaRYf.

[274] Br. of *Amici Curiae* Philosophers, https://bit.ly/3GO8GmH.

[275] Br. of *Amici Curiae* UK-Based Legal Academics, https://bit.ly/3q3LtXH.

the United States and Canada;[276] professors Peter Singer, Gary Comstock, and Adam Lerner;[277] attorneys Shannon Minter and Evan Wolfson;[278] the Animal Legal Defense Fund;[279] Professor Maneesha Deckha;[280] and Reverend and Professor Andrew Linzey, Ph.D., D.D., Hon.D.D., and Professor Clair Linzey, Ph.D.[281]

130. The progress of society is also evidenced in the legal landscape. "[W]e do not need a mirror to the past or a telescope to the future to recognize that the legal status of animals has changed and is changing still." *State v. Fessenden*, 355 Ore. 759, 770 (2014).[282] Courts around the world are seriously considering and, in some cases, recognizing the rights of some nonhuman animals.

131. In 2014, the Supreme Court of India held that all nonhuman animals possess certain constitutional and statutory rights. *Animal Welfare Board v. Nagaraja*, MANU/SC/0426/2014 at paras. 32, 54, 56, 62, 77 (Supreme Court of India, July 5, 2014), available at: https://bit.ly/3JbHdMP.

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[276] Br. of *Amici Curiae* Law Professors, https://bit.ly/3Mxoyw1.

[277] Br. of *Amici Curiae* Peter Singer, Gary Comstock, and Adam Lerner, https://bit.ly/3KTvtiM.

[278] Br. of *Amici Curiae* Shannon Minter and Evan Wolfson, https://bit.ly/3JSZHRA.

[279] Br. of *Amicus Curiae* Animal Legal Defense Fund, https://bit.ly/3KZbvmE.

[280] Br. of *Amicus Curiae* Maneesha Deckha, https://bit.ly/3rAoWSq.

[281] Br. of *Amicus Curiae* Animal Theology Experts, https://bit.ly/37XW6Ev.

[282] A recent New York intermediate appellate court recognized "it is common knowledge that personhood can and sometimes does attach to nonhuman entities like . . . . animals." *People v. Graves* (4th Dept. 2018) 163 A.D.3d 16, 21 (citations omitted).

132. In November 2016, an Argentinian court granted habeas corpus relief to an imprisoned chimpanzee named Cecilia, declared her a “nonhuman legal person,” and ordered her transferred from the Mendoza Zoo to a Brazilian sanctuary. *Presented by A.F.A.D.A. About the Chimpanzee “Cecilia” – Nonhuman Individual*, File No. P.72.254/15 at 32 (Third Court of Guarantees, Mendoza, Argentina, Nov. 3, 2016) [English translation], available at: https://bit.ly/3mkkSmy.

133. In 2017, the Civil Cassation Chamber of the Colombia Supreme Court granted habeas corpus relief to an imprisoned spectacled bear named Chucho and ordered him transferred from the Barranquilla City Zoo to the Río Blanco Natural Reserve. *Luis Domingo Gomez Maldonado contra Corporacion Autonoma Regional de Caldas Corpocaldas*, AHC4806-2017 at 17 (Supreme Court of Colombia, Civil Cassation Chamber, July 26, 2017) [English translation], available at: https://bit.ly/3GUb0rw. That decision was subsequently nullified on due process grounds and the nullification was confirmed by the Colombian Constitutional Court in a 7-2 decision. *Tutela Action Filed by the Botanical and Zoological Foundation of Barranquilla (FUNDAZOO) against the Supreme Court of Justice*, SU016/20 (Constitutional Court of Colombia, Jan. 23, 2020) [English translation], available at: https://bit.ly/3yzWTog (hereafter *Tutela Action*). Magistrate Diana Fajardo Rivera powerfully dissented on the basis of the Great Writ’s history, concluding that Chucho is “the holder of the right to animal freedom, understood as conditions in which he is better able to express his vital behavioral patterns,” and possesses

"intrinsic value." *Id.* at ¶¶ 117, 118 (Fajardo, J., dissenting).[283] An official court announcement regarding the *Tutela Action* indicated that Magistrate Alberto Rojas Ríos partially dissented because "the concept of person is not synonymous with human being and that personality is not merely a biological concept," and that nonhuman animals, "according to their autonomy, should have basic rights which can be protected." *Report No. 03*, SU016/20 at 7 (Constitutional Court of Colombia, Jan. 23, 2020) [English Translation], available at: https://bit.ly/3GZgocT.

134. In 2020, the Islamabad High Court ordered the release of an imprisoned Asian elephant named Kaavan from the Islamabad Zoo to an elephant sanctuary, stating "without any hesitation" that Kaavan is the subject of legal rights. *Islamabad Wildlife Mmgt. Bd. v. Metropolitan Corp. Islamabad*, W.P. No. 1155/2019 at 59, 62 (H.C. Islamabad, Pakistan, May 21, 2020), available at: https://bit.ly/3tXu4zT. The court recognized the "exceptional abilities" of elephants and cited with approval Judge Fahey's concurrence in *Tommy* as well as the NhRP's litigation on behalf of Happy, whom the court characterized as "inmate at the Bronx [Z]oo." *Id.* at 12, 40, 41-42, 58. The court also stated: "It is a right of each animal . . . to live in an environment that meets the latter's behavioral, social and physiological needs." *Id.* at 60.

135. In 2022, Ecuador's highest court—the Constitutional Court—decided an appeal from the denial of a writ of habeas corpus for a chorongo monkey named

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[283] Magistrate Fajardo cited the NhRP and its President and Founder, Steven Wise, ten times. *Tutela Action* at ¶ 41 and fns. 90, 91, 96, 114, 155, 177, 187, 189 (Fajardo, J., dissenting); *Tutela Action* at ¶¶ 57-58 (Annex to Fajardo, J., dissent). She also cited with approval Judge Fahey's concurrence in *Tommy*. *Tutela Action* at ¶ 75 and fns. 163, 168 (Fajardo, J., dissenting).

Estrellita.[284] Judgment No. 253-20-JH/22 *Rights of Nature and animals as subjects of rights, 'Estrellita Monkey' Case* (Constitutional Court of Ecuador, 2022), https://bit.ly/3MhkBw6. By a 7-2 vote, the Court ruled: "Animals are subjects of rights protected by the rights of Nature." *Id.* at ¶ 181, p. 55. Regarding the availability of habeas corpus for wild nonhuman animals, the Court wrote:

> [T]he rights of a wild animal must be protected objectively, taking its life, freedom and integrity as their own inherent rights, and not based on the claims, desires or intentions of third parties. In these cases, if the judges prove that the deprivation or restriction of the freedom of a wild animal is unlawful, they must provide the most suitable alternative for the preservation of the life, freedom, integrity and other related rights of the victim; they may order, without being restrictive, its reinsertion in its natural ecosystem, its translocation to shelters, sanctuaries, aquariums, eco zoos, or its treatment in animal rehabilitation centers.

Id. at ¶ 173, p. 53.[285]

IX. As a matter of liberty, this Court must recognize Amahle, Nolwazi, and Vusmusi's common law right to bodily liberty protected by habeas corpus because they are autonomous and extraordinarily cognitively complex

136. "Anglo American law starts with the premise of thorough-going self determination." *Thor v. Superior Court* (1993) 5 Cal.4th 725, 736 (hereafter *Thor*) (internal quotations and citation omitted). "No right is held more sacred, or is more carefully

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[284] In 2020, the Constitutional Court selected this case for appeal in order to "develop case law determining the scope of a motion for *habeas corpus* with respect to the protection of other living beings, and if these can be considered as subjects entitled to rights covered by the laws of nature." Selection Court of the Constitutional Court of Ecuador re: Case No. 253-20-JH at para. 9 (Dec. 22, 2020) [English translation], available at: https://bit.ly/3LYoMf8.

[285] The Constitutional Court relied upon a joint amicus brief submitted by the NhRP and Harvard Law School's Animal Law & Policy Program, citing it ten times. Judgment No. 253-20-JH/22 at ¶ 5, p. 3; ¶¶ 10-13, pp. 4-5; ¶ 68, p. 22; ¶ 86 n.89, p. 28; ¶ 126 n.117, p. 38; ¶ 128, pp. 38-39; ¶ 132 n.125, p. 41; ¶ 136 n.129, p. 42; ¶ 143 n.133, p. 44; ¶ 144, pp. 44-45. The joint amicus brief is available at https://bit.ly/3F0QViM.

guarded, by the common law, than the right of every individual to possession and control of his own person, free from all restraint or interference of others, unless by clear and unquestionable authority of law . . . The right to one's person may be said to be a right of complete immunity: to be let alone." *Id*. at 731 (quoting *Union Pac. Ry. Co. v. Botsford* (1891) 141 U.S. 250, 251).[286] Thus, "the role of the state is to ensure a maximum of individual freedom of choice and conduct." *Id*. at 740 (internal quotations and citation omitted).

137. Autonomy anchors the common law right to bodily liberty. *Id*. at 734-35 (noting the "'long-standing importance in our Anglo-American legal tradition of personal autonomy and the right of self-determination.' . . . As John Stuart Mill succinctly stated, 'Over himself, over his own body and mind, the individual is sovereign.'") (citations omitted). See *Riese v. St. Mary's Hosp. & Med. Ctr*. (1987) 209 Cal.App.3d 1303, 1324 ("it is the individual who must have the final say in respect to decisions regarding his medical treatment in order to insure that the greatest possible protection is accorded his autonomy and freedom from unwanted interference with the furtherance of his own desires") (quoting *Rivers v. Katz* (1986) 67 N.Y. 2d 485, 493, in which the New York Court of Appeals also stated: "[i]n our system of a free government . . . notions of individual autonomy and free choice are cherished").

138. In California, the protection given to an individual's autonomy under the common law is of such supreme importance that a competent individual may choose to

[286] The Court referred to *Botsford* as expressing a "precept of personal autonomy." *Thor*, 5 Cal.4th at 731.

reject lifesaving medical treatment and die.[287] See, e.g., *Conservatorship of Wendland* (2001) 26 Cal.4th 519, 531-32 (*Thor* "held that the common law right of a competent adult to refuse life-sustaining treatment extends even to a state prisoner . . . . [W]e based our conclusion that a prisoner had the right to refuse life-sustaining treatment solely on the common law."); *Thor*, 5 Cal.4th at 732 (Under California common law, "a competent, informed adult has a fundamental right of self-determination to refuse or demand the withdrawal of medical treatment of any form irrespective of the personal consequences."); *Cobbs v. Grant* (1972) 8 Cal.3d 229, 242 ("[A] person of adult years and in sound mind has the right, in the exercise of control over his own body, to determine whether or not to submit to lawful medical treatment.").

139. The Great Writ of habeas corpus can be used to protect the autonomy of both imprisoned human beings and imprisoned elephants. It "has been justifiably lauded as the safe-guard and the palladium of our liberties and was considered by the founders of this country as the highest safeguard of liberty." *Villa*, 45 Cal.4th at 1068 (internal quotations and citations omitted).

140. Judge Fahey recognized that autonomy lies at the heart of whether a chimpanzee "has the right to liberty protected by habeas corpus," noting "the answer . . . will depend on our assessment of the intrinsic nature of chimpanzees as a species." *Tommy*, 31 N.Y.3d at 1057 (Fahey, J. concurring). He also noted:

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[287] Similarly, an individual has the right to refuse antipsychotic medication even when they may be incompetent to make certain other choices. The California Supreme Court made clear that the adjudication of an individual as a medically disordered offender does not mean such individuals are "incompetent to participate in their own medical decisions," including the right to refuse anti-psychotic medication. *In re Qawi* (2004) 32 Cal. 4th 1, 24.

> The record before us in the motion for leave to appeal contains unrebutted evidence, in the form of affidavits from eminent primatologists, that chimpanzees have advanced cognitive abilities. . . . Moreover, the amici philosophers with expertise in animal ethics and related areas draw our attention to recent evidence that chimpanzees demonstrate autonomy by self-initiating intentional, adequately informed actions, free of controlling influences.

Id. 1057-58 (citations omitted).

141. Justice Tuitt similarly found that "elephants are autonomous beings possessed of extraordinarily cognitively complex minds." *Breheny (Trial Court),* 2020 WL 1670735 at *6. Based on the NhRP's six uncontroverted "expert scientific affidavits from five of the world's most renowned experts on the cognitive abilities of elephants," *id*. at *3, Justice Tuitt concluded that the elephant Happy "is an extraordinary animal with complex cognitive abilities, an intelligent being with advanced analytic abilities akin to human beings. . . . She is an intelligent, autonomous being who should be treated with respect and dignity, and who may be entitled to liberty." *Id*. at *10.

142. While elephants, like many human beings, may not be capable of certain complex decisions (e.g., whether to refuse medical treatment), they are capable of making decisions relevant to habeas corpus. For example, they can "discuss" with other elephants where they wish to go, and when, and choose what they want to do, and with whom.[288] Accordingly, because Amahle, Nolwazi, and Vusmusi are autonomous and extraordinarily cognitively complex beings, this Court as a matter of liberty must recognize their common law right to bodily liberty protected by habeas corpus and order them freed.

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[288] Poole Aff. ¶ 44.

X. As a matter of equality, this Court must recognize Amahle, Nolwazi, and Vusmusi's common law right to bodily liberty protected by habeas corpus because they are autonomous and extraordinarily cognitively complex

143. "Our whole system of law is predicated on the general fundamental principle of equality of application of the law." *Truax v. Corrigan* (1921) 257 U.S. 312, 332. Our "institutions are founded upon the doctrine of equality,"[289] and equality is deeply embedded in the common law. E.g., *Isrin v. Super. Ct. of L.A. Cnty.* (1965) 63 Cal.2d 153, 165 ("fundamental notions of equality and fairness" have existed "since the earliest days of the common law") (citing *Martin*, 176 Cal. at 293-97); *Sullivan v. Minneapolis & R. R. Ry. Co.* (1913) 121 Minn. 488, 492 ("the general principle of equality is a principle of the common law") (internal quotations and citation omitted); *Simrall v. City of Covington* (Ky. 1890) 14 S.W. 369, 370 ("Perhaps the most distinguishing feature of the common law is its regard for the protection and equality of individual right."); *James v. Commonwealth* (Pa. 1825) 12 Serg. & Rawle 220, 230 ("the common law . . . stamps freedom and equality upon all who are subject to it").

144. Equality has both a comparative component, in which one's entitlement to a right is determined by comparing one's situation to the situation of another who has that right, and a noncomparative component, in which one's entitlement to a right is determined by making a normative judgment. The comparative component is violated when individuals similarly situated in relevant respects are treated in dissimilar ways, while the noncomparative component is violated when the treatment lacks a legitimate or moral end. Amahle, Nolwazi and Vusmusi's imprisonment violates both equality principles.

a. Amahle, Nolwazi, and Vusmusi's imprisonment by Respondents violates the comparative component of equality because elephants and humans are similarly situated for purposes of habeas corpus

145. It is a fundamental and ancient principle that similarly-situated individuals must be treated alike. "Injustice, said Aristotle, can consist in treating unequals equally or of treating equals unequally." *Petersen v. Bank of Am. Corp.* (2014) 232 Cal.App.4th 238, 254; *J.R. Norton Co. v. Agric. Lab. Rel. Bd.* (1979) 26 Cal.3d 1, 31 ("it is as old in philosophy at least as Aristotle, and it is settled in the law as well, that the application of an apparently uniform rule may in reality engender unfair discrimination when like measures are applied to unlike cases") (internal quotation and citation omitted).

146. Both equal protection clauses of the Fourteenth Amendment and the California Constitution require that similarly-situated individuals be treated alike. See *People v. Marshall* (1990) 50 Cal.3d 907, 936 ("Of course, principles of equal protection [under the Fourteenth Amendment and California Constitution] prohibit dissimilar treatment for similarly situated persons.").

147. While Amahle, Nolwazi, and Vusmusi's case is not an Equal Protection case, "constitutional values . . . can enrich the common law." Judith S. Kaye, *Forward: The Common Law and State Constitutional Law as Full Partners in the Protection of Individual Rights*, 23 RUTGERS L. J. 727, 743 (1992). The two-way street that exists between common law and constitutional adjudication can result in "common law decisionmaking infused with constitutional values." *Id*. at 747.

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[289] *Loving v. Virginia* (1967) 388 U.S. 1, 11 (internal quotations and citations omitted).

148. The comparative component of equality is also integral to California common law, as it is in other common law jurisdictions.[290] In the constitutional law case of *Brown v. Merlo* (1973) 8 Cal.3d 855 (hereafter *Brown*), the California Supreme Court noted that its reasoning in *Muskopf* "rel[ied] on the unequal treatment afforded similarly situated persons," which "*parallels* the constitutional principle embodied in our state and federal equal protection clauses." *Id.* at 881 (emphasis added). *Muskopf v. Corning Hosp. Dist.* (1961) 55 Cal.2d 211, 216 (hereafter *Muskopf*), a common law case, discarded the governmental immunity doctrine as "mistaken and unjust," specifically because its "exceptions operate so illogically as to cause serious inequality," and that "[t]he illogical and inequitable extreme [was] reached in this case."

149. Relying on a trio of common law decisions, *Brown* further made clear that the comparative component of equality is embodied in both the common law and constitutional law:

> The primary concern of the 'equal protection' guarantee of our state and federal Constitutions, however, is that 'persons similarly situated with respect to the legitimate purpose of the law receive like treatment' and we believe that, just as in *Emery*, *Klein* and *Gibson*, the guest statute's wholesale elimination of causes of action fails to provide such 'like treatment' for 'similarly situated' individuals.

8 Cal.3d at 876 (citations omitted). See, e.g., *Emery v. Emery* (1955) 45 Cal.2d 421, 430 (abrogating parental immunity for a willful or malicious tort, as "[a] child, like every other

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[290] See, e.g., *Benavidez v. Sierra Blanca Motors* (1996) 122 N.M. 209, 214 ("This trend furthers one of the most basic principles of the common law: like cases will be treated alike."); *De Ayala v. Florida Farm Bureau Cas. Ins. Co*. (Fla. 1989) 543 So.2d 204, 206 ("Under . . . our common law heritage, all similarly situated persons are equal before the law.").

individual, has a right to freedom from such injury."); *Klein v. Klein* (1962) 58 Cal.2d 692, 695-96 (abrogating spousal immunity for intentional and negligent torts, thus treating spouses and non-spouses similarly for tort purposes); *Gibson v. Gibson* (1971) 3 Cal.3d 914, 919-20 (abrogating parental immunity by permitting a minor to sue his parent for negligence, thus treating all minors similarly for negligence purposes).

150. In *James*, the California Supreme Court held that a labor union's denial of membership to Black workers solely based on their race constituted unreasonable discrimination in violation of the common law. 25 Cal.2d at 739-40.

151. In determining whether Amahle, Nolwazi, and Vusmusi's imprisonment violates the comparative component of equality under the common law, this Court must decide whether elephants and humans are similarly situated in *relevant* respects for purposes of habeas corpus. See *Kasler v. Lockyer* (2000) 23 Cal.4th 472, 479 ("'The general rule is that persons who are similarly situated in relevant respects must be treated equally by the law.'") (citation omitted).

152. The NhRP contends that, for purposes of habeas corpus, elephants and humans are similarly situated in the relevant respect that both are autonomous beings. Respondents will likely contend that elephants and humans are not similarly situated solely because elephants are not human. To rationally choose between these competing arguments, this Court must embrace the one that harmonizes best with the most essential values and principles embraced by California courts.

153. The assertion that only species membership matters perpetuates an unreasonable discrimination and deeply conflicts with the supreme importance of protecting

an individual's autonomy under the common law (see discussion *supra*, ¶¶ 136-139). Judge Fahey recognized that chimpanzees are autonomous beings with advanced cognitive abilities and criticized a lower court's "conclusion that a chimpanzee cannot be considered a 'person' and is not entitled to habeas relief" as being "based on nothing more than the premise that a chimpanzee is not a member of the human species." *Tommy*, 31 N.Y.3d at 1057 (Fahey, J. concurring). While "all human beings possess intrinsic dignity and value, . . . in elevating our species, we should not lower the status of other highly intelligent species."[291] *Id.*

154. Amahle, Nolwazi, and Vusmusi are autonomous beings with advanced cognitive abilities and, as such, are similarly situated to humans for purposes of habeas corpus. Their imprisonment at the Fresno Zoo therefore violates the comparative component of equality. It would be unreasonable discrimination to refuse to recognize Amahle, Nolwazi, and Vusmusi as "individual[s] with inherent value who ha[ve] the right to be treated with respect." *Id.* at 1058.

b. Amahle, Nolwazi, and Vusmusi's imprisonment by Respondents violates the noncomparative component of equality because it lacks a legitimate or moral end

155. Distinctions among classes that lack a legitimate or moral end violate the noncomparative component of equality, for "the classification must bear some fair relationship to a legitimate public purpose." *Bd. of Supervisors v. Loc. Agency Formation Com.* (1992) 3 Cal.4th 903, 913 (citation omitted). A classification can lack a legitimate or moral end in two relevant ways.

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[291] NhRP argues that autonomy is sufficient—though not necessary—for the common law right to bodily liberty protected by habeas corpus.

156. *First*, distinctions grounded upon a single, irrelevant trait are illegitimate and/or immoral. In *Romer v. Evans* (1996) 517 U.S. 620, 633 (hereafter *Romer*), the United States Supreme Court struck down on equal protection grounds a provision in Colorado's Constitution (Amendment 2) that prohibited the protection of gay and lesbian individuals from discrimination because the law "identif[ed] persons by a single trait [sexual orientation] and then deni[ed] them protection across the board."[292] See also *Equality Found. v. City of Cincinnati* (6th Cir. 1997) 128 F.3d 289, 297 (noting that *Romer* found Amendment 2 "so obviously and fundamentally inequitable, arbitrary, and oppressive that it literally violated basic equal protection values"); *Ex parte Finley* (1905) 1 Cal.App. 198, 205 ("The grandest principle of our law, rightly termed the safeguard of our liberties and institutions, is that firmly fixed but sometimes misunderstood rule against discrimination between persons or classes merely because they are such.").[293]

157. Similarly, in examining "whether a closed union coupled with a closed shop is a legitimate objective of organized labor" under the common law, the Court in *James* found

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[292] Cf. *Buck v. Davis* (2017) 137 S.Ct. 759, 778 ("Our law punishes people for what they do, not who they are. Dispensing punishment on the basis of an immutable characteristic flatly contravenes this guiding principle.").

[293] See also *Gantt v. Sentry Ins.* (1992) 1 Cal.4th 1083, 1093 ("racial discrimination [is] contrary to public policy under the common law duty of innkeepers and common carriers to furnish accommodations to all persons."), overruled on other grounds by *Green v. Ralee Eng'g Co.* (1998) 19 Cal.4th 66; *Gay Law Students Assn. v. Pacific Tel. & Tel Co.* (1979) 24 Cal.3d 458, 476, 484 ("Since medieval times, the common law has imposed various obligations upon enterprises that exercise monopoly power to assure that such power is not exerted in an arbitrary or discriminatory manner. . . . [C]ommon law restrictions on monopoly exclusion from employment . . . reach all forms of arbitrary discrimination."); *Millington v. Southeastern Elevator Co.* (1968) 22 N.Y.2d 498, 508-09 (updating the common law "on the basis of policy and fairness" to terminate "an unjust discrimination" that distinguished wives and husbands solely on the basis of the irrelevant trait of sex.).

that a labor union's "discriminatory practices" treated qualified Black workers unequally solely on the irrelevant basis of their race and were "contrary to the public policy of the United States and [California]." 25 Cal.2d 730, 740. The Court extended its holding to unions that had not attained a labor monopoly in *Williams v. Int'l Broth. of Boilermakers, Iron Shipbuilders and Helpers of Am.* (1946) 27 Cal.2d 586 (1946). There, it found that "the union's efforts are directed, not toward advancing the legitimate interests of a labor union, but rather against other workers solely on the basis of race and color," and "[n]o purpose appropriate to the functions of a labor organization may be found in such discriminatory conduct." *Id.* at 591.

158. *Second*, distinctions rooted in animus are illegitimate and/or immoral. In *Romer*, for example, Amendment 2 also violated the Equal Protection Clause because its "sheer breadth [was] so discontinuous with the reasons offered for it that the amendment seem[ed] inexplicable by anything but animus toward the class it affect[ed] [gay and lesbian persons]." 517 U.S. at 632. Amendment 2 "classifie[d] homosexuals not to further a proper legislative end but to make them unequal to everyone else." *Id*. at 635. See *Allen v. City of Sacramento* (2015) 234 Cal.App.4th 41, 63, as modified on denial of reh'g (Mar. 6, 2015) ("Even under the more lenient rational relationship test, discriminatory animus toward a group is not a valid state objective.").[294]

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[294] See also *City of Cleburn*e, *Tex. v. Cleburne Living Ctr*. (1985) 473 U.S. 432, 450 (an "irrational prejudice against the mentally retarded" is not a legitimate governmental interest); *U.S. Dept. of Agric. v. Moreno* (1973) 413 U.S. 528, 534 (If "'equal protection of the laws' means anything, it must . . . mean that a bare congressional desire to harm a politically unpopular group cannot constitute a legitimate governmental interest").

159. Amahle, Nolwazi and Vusmusi's imprisonment lacks a legitimate or moral end and therefore violates the noncomparative component of equality. It is grounded upon a single, irrelevant trait—being an elephant—and rooted in an animus that regards them "as entirely lacking independent worth, as a mere resource for human use, a thing the value of which consists exclusively in its usefulness to others." *Tommy*, 31 N.Y.3d at 1058 (Fahey, J. concurring).

160. Refusing to recognize Amahle, Nolwazi, and Vusmusi's common law right to bodily liberty protected by habeas corpus would undermine this Court's fundamental common law duty to protect autonomy (*supra*, ¶¶ 136-139) and would echo a long and deeply regrettable history of naked biases. This is not a history to emulate.[295]

161. For example, the U.S. Supreme Court once stated that all Black people, slave and free, "had no rights which the white man was bound to respect"—merely because they were Black. *Dred Scott v. Sandford* (1857) 60 U.S. 393, 407. The California Supreme Court once held that Chinese people—merely because they were Chinese—could not testify against a white man in court, for they are "a race of people whom nature has marked as inferior, and who are incapable of progress or intellectual development beyond a certain

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[295] "[O]ne of the things I [Jill Lepore] learned about working on this piece which I had never really understood before, not really being a historian of animals is how much of the capture and display and torture and public execution of elephants took place very much in the shadow of reconstruction, the abandonment of reconstruction, the rise of Jim Crow. There is some deeply troubling way in which the history of the elephant really is tied to the history of enslavement and deep brutality in the history of the United States." THE TAKEAWAY, https://bit.ly/3rndHNB.

point, as their history has shown . . . ."[296] *People v. Hall* (1854) 4 Cal. 399, 405. The U.S. government once argued that Ponca Chief Standing Bear—merely because he was an Indigenous American—was not a "person" for purposes of habeas corpus. *United States ex rel. Standing Bear v. Crook* (C.C. Neb. 1879) 25 F.Cas. 695, 697 (hereafter *Standing Bear*).[297] See Stephen Dando-Collins, *Standing Bear is a Person* 117 (2004) (U.S. government's argument was that "Indians had no more rights in a court of law than beasts of the field."). The Wisconsin Supreme Court refused to allow Lavinia Goodell to practice law merely because she was a woman. *In re Goodell* (1875) 39 Wis. 232.

162. Accordingly, Amahle, Nolwazi, and Vusmusi are entitled to the common law right to bodily liberty protected by habeas corpus as a matter of equality.

XI. This Court, not the Legislature, has the duty to recognize Amahle, Nolwazi, and Vusmusi's common law right to bodily liberty protected by habeas corpus

163. The California Supreme Court has firmly asserted "the independence of the judicial branch" to "insure the just and rational development of the common law." *Rodriguez*, 12 Cal.3d at 393. "Although the Legislature may of course speak to the subject [of the common law], in the common law system the primary instruments of this evolution are the courts, adjudicating on a regular basis the rich variety of individual cases brought

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[296] Judge Leon R. Yankovich observed that *People v. Hall* enacted "prejudice in the form of law." Leon R. Yankovich, *Social Attitudes as Reflected in Early California Law*, 10 HASTINGS L. J. 250, 257-261 (1959).

[297] In rejecting the U.S. Attorney's position, the court relied upon Webster's definition of "person," which "describes a person as '*a living soul; a self-conscious being; a moral agent*; especially a living human being; a man, woman, or child; an individual of the human race.'" *Standing Bear*, 25 F.Cas. at 697 (emphasis added). Amahle, Nolwazi and Vusmusi satisfy this definition.

before them." *Id*. "'We act in the finest common-law tradition when we adapt and alter decisional law to produce common-sense justice. . . . Legislative action there could, of course, be, but we abdicate our own function, in a field peculiarly nonstatutory, when we refuse to reconsider an old and unsatisfactory court-made rule.'" *Id.* at 397 (quoting *Millington v. Southeastern Elevator Co.* (1968) 22 N.Y.2d 498, 508).

164. California courts do not hesitate to change archaic common law without waiting for legislative action. In *Muskopf*, the Court dealt "a major blow to the contention that reconsideration of settled common law rules should await action by the Legislature" when it found "no valid reason for continuing the exception of sovereign immunity." *Rodriguez*, 12 Cal.3d at 394-95 (citing *Muskopf*, 55 Cal.2d at 211). In other decisions, the Court has "abolished long-standing common law tort rules over the specific objection that the question should have been left for legislative action." *Id.* at 396 (citing multiple examples).[298] For example, "we expressly rejected the contention that any change in the law of contributory negligence was exclusively a matter for the legislature, and overturned more than a century of precedent." *Cnty. Sanitation* 38 Cal.3d at 584 (citing *Li v. Yellow Cab Co.* (1975) 13 Cal.3d 804, 812).[299]

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[298] See also *Brown v. Merlo* (1973) 8 Cal.3d 855, 869-70 (citing *Rowland v. Christian* (1968) 69 Cal.2d 108) (noting "the *Rowland* court went to the heart of the matter and exposed the entire business invitee-social guest-trespasser classification scheme as irrational in contemporary society."); *id.* at 870 (noting "[t]he sentiment which found expression in the *Rowland* case also lay at the foundation of our court's earlier decisions . . . abolishing charitable immunity in California.").

[299] Furthermore, the highest courts of California's sister states have "time and again rejected . . . the argument that [recovery for the loss of consortium rule] can be changed only by legislative action." *Rodriguez*, 12 Cal.3d at 396 (citing multiple examples). "[T]hese courts did not await legislative action once they became convinced the rule was outdated and

165. This Court may not "abdicate [its] responsibility for the upkeep of the common law." *Rodriguez*, 12 Cal.3d at 393 (internal quotations and citation omitted). Accordingly, it is this Court's duty, not the legislature's, to recognize Amahle, Nolwazi, and Vusmusi's common law right to bodily liberty protected by habeas corpus.

XII. Amahle, Nolwazi, and Vusmusi are "persons" for purposes of habeas corpus

166. Cal. Penal Code §1473(a) provides that "[e]very person unlawfully imprisoned or restrained of his liberty, under any pretense whatever, may prosecute a writ of habeas corpus, to inquire into the cause of such imprisonment or restraint." Consistent with the fact that habeas corpus is a common law action, "person" is undefined by the procedural statute. It is for this Court to decide in accordance with the nine considerations discussed above (*supra*, ¶ 113) whether Amahle, Nolwazi, and Vusmusi may employ habeas corpus. This case is not a matter of statutory interpretation or legislative intent.[300]

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unjust. Instead they forthrightly so declared and overruled their decisions to the contrary." *Id.*at 397.

[300] Even in statutory interpretation cases where the term "person" is undefined, courts have not limited the meaning of "person" to the legislative intent at the time the statute was enacted. For example, the Supreme Court of Connecticut held that the term "persons" in a statute regarding the admission of attorneys to the bar included women and Black men, even though no legislator at the time contemplated the statute applying to those individuals. *In re Hall* (1882) 50 Conn. 131, 131-33. The court explained:

> [W]e come back to the question whether we are by construction to limit the application of the statute to men alone, by reason of the fact that in its original enactment its application to women was not intended by the legislators that enacted it. . . . But if we hold that the construction of the statute is to be determined by the admitted fact that its application to women was not in the minds of the legislators when it was passed, where shall we draw the line? All progress in social matters is gradual. We pass almost imperceptibly from a state of public opinion that utterly condemns some course of action to one that

167. This Court's recognition of the elephants' common law right to bodily liberty protected by habeas corpus makes them "persons" for purposes of California habeas corpus procedural statutes (i.e., Cal. Penal Code § 1473 et seq and Cal. Rules of Court 4.550 et seq.).[301]

168. A "person is any being whom the law regards as capable of rights or duties. Any being that is so capable is a person, *whether a human being or not*." *Person,* BLACK'S LAW DICTIONARY (11th ed. 2019 (quoting JOHN SALMOND, JURISPRUDENCE 318 (10th ed. 1947)) (emphasis added). See also IV ROSCOE POUND, JURISPRUDENCE 197 (1959) ("The significant fortune of legal personality is the capacity for rights."); Richard Tur, *The "Person" in Law*, *in* PERSONS AND PERSONALITY: A CONTEMPORARY INQUIRY, 121-22 (Arthur Peacocke & Grant Gillett eds. 1987) ("[L]egal personality can be given to just about anything. . . . It is an empty slot that can be filled by anything that can have rights or duties."); Bryant Smith, *Legal Personality*, 37 YALE L.J. 283, 283 (1928) ("To confer legal rights or to impose legal duties . . . is to confer legal personality.").[302]

> strongly approves it. . . . When the statute we are now considering was passed it probably never entered the mind of a single member of the legislature that black men would ever be seeking for admission under it. Shall we now hold that it cannot apply to black men?

Id. at 132-33.

[301] In a habeas corpus case brought by the NhRP on behalf of a chimpanzee, a New York appellate court recognized that New York's habeas corpus procedural statute "does not purport to define the term 'person,' and for good reason. The Legislature did not intend to change the instances in which the writ was available, which has been determined by the slow process of decisional accretion." *People ex rel. Nonhuman Rights Project, Inc. v. Lavery* (3d. Dept. 2014) 124 A.D.3d 148, 150 (internal quotations and citations omitted).

[302] See also J.-R. Trahan, *The Distinction Between Persons and Things: An Historical Perspective,* 1 J. CIVIL L. STUD. 9, 14 (2008) ("First, the modern theory (re-) defines

169. "Person" is not synonymous with human. Today, human fetuses are not "persons" within the meaning of certain statutes and constitutional provisions. E.g., *Roe v. Wade* (1973) 410 U.S. 113, 158 ("[T]he word 'person,' as used in the Fourteenth Amendment, does not include the unborn."); *In re Steven S.* (1981) 126 Cal.App.3d 23, 26 ("an unborn fetus is not a person within the meaning of Welfare and Institutions Code section 300").

170. Historically, groups of humans were denied the recognition of personhood with respect to certain fundamental rights. See, e.g., *In re Perkins* (1852) 2 Cal. 424, 447 (determining that a slave did not have the right to bodily liberty protected by habeas corpus); *Sail'er Inn, Inc. v. Kirby* (1971) 5 Cal.3d 1, 19 ("Women, like Negroes, aliens, and the poor have historically labored under severe legal and social disabilities. Like black citizens, they were for many years, denied the right to vote and, until recently, the right to serve on juries in many states."); *Burlingame v. Traeger* (1929) 101 Cal.App. 365, 370 (at common law, "a wife was . . . denied all contractual power and independence of legal or political action"); R.A. Routledge, *The Legal Status of the Jews in England 1190-1790*, 3 J. LEGAL HIST. 91, 93-94, 98, 103 (1982) (during the 13th century in England, Jews were not "persons").

171. An individual or entity[303] may be a "person" without being human.

'person' as the '*subject* of rights and duties,' in the sense of that which is 'capable' of being 'subjected' to duties and/or of being 'invested' with rights.").

[303] Corporations are "persons" for many purposes despite not being human. E.g., *Johnson v. Goodyear Min. Co* (1899) 127 Cal. 4, 8 ("It has long been settled that the word 'person,' within the meaning of the fourteenth amendment to the constitution of the United States, applies to a corporation"). It has long been recognized that "[l]egal personality may be

Significantly, "animals may conceivably be legal persons," and there may be "systems of Law in which animals have legal rights." JOHN CHIPMAN GRAY, THE NATURE AND SOURCES OF THE LAW 42-43 (2d ed. 1963); see also *People v. Graves* (4th Dept. 2018) 163 A.D.3d 16, 21 (hereafter *Graves*) (A recent New York intermediate appellate court recognized "it is common knowledge that personhood can and sometimes does attach to nonhuman entities like . . . . animals.") (citations omitted).

172. Under California's Probate Code, domestic and pet animals are legal persons because they can be beneficiaries of fully enforceable trusts with the statutory right to the trust corpus.[304] See Cal. Prob. Code § 15212; Cal. Prob. Code § 15212(i) ("'animal' means a domestic or pet animal *for the benefit* of which a trust has been established") (emphasis added). As only "persons" can be beneficiaries, these nonhuman animals are necessarily legal persons for purposes of trust beneficiary rights.[305] See Cal. Prob. Code § 24 ("Beneficiary" means "a person to whom a donative transfer of property is made . . . " and "[a]s it relates to a trust, a person who has any present or future interest, vested or contingent."); *Beneficiary*, BLACK'S LAW DICTIONARY (11th ed. 2019 ("beneficiary" is "[a]

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granted to entities other than individual human beings, e.g. a group of human beings, a fund, an idol." GEORGE WHITECROSS PATON, A TEXTBOOK OF JURISPRUDENCE 351 (3d ed. 1964. There is also "no difficulty giving legal rights to a supernatural being and thus making him or her a legal person." JOHN CHIPMAN GRAY, THE NATURE AND SOURCES OF THE LAW 42-43 (2d ed. 1963).

[304] A trust is "[t]he right . . . to the beneficial enjoyment of property to which another person holds the legal title; a property interest held by one person (the *trustee*) at the request of another (the *settlor*) for the benefit of a third party (the *beneficiary*). *Trust*, BLACK'S LAW DICTIONARY (11th ed. 2019).

person to whom another is in a fiduciary relation, . . . esp., a person for whose benefit property is held in trust”).[306]

173. This Court cannot deny Amahle, Nolwazi, and Vusmusi’s personhood just because they are elephants. In a nearly identical chimpanzee habeas corpus case, Judge Fahey explained that the appropriate question is “not whether a chimpanzee fits the definition of a person or whether a chimpanzee has the same rights and duties as a human being, but instead whether he or she has the right to liberty protected by habeas corpus.” *Tommy*, 31 N.Y.3d at 1057 (Fahey, J. concurring). “Does an intelligent nonhuman animal who thinks and plans and appreciates life as human beings do have the right to the protection of the law against arbitrary cruelties and enforced detentions visited on him or her? This is not merely a definitional question, but a deep dilemma of ethics and policy that demands our attention.”[307] *Id*. at 1058.

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[305] Amahle, Nolwazi and Vusmusi are the beneficiaries of a trust created by the NhRP pursuant to Cal. Prob. Code § 15212 for the purpose of providing for their care and maintenance upon their release to an appropriate elephant sanctuary. (Exhibit 7).

[306] Like in California, other states have made certain nonhuman animals beneficiaries and therefore legal persons for trust purposes, including New York (EPTL § 7-8.1), Colorado (C.R.S. § 15-11-901), Massachusetts (M.G.L. 203E § 408), Nevada (Nev. Rev. Stat. § 163.0075), and Virginia (Va. Code § 64.2-726).

[307] “‘Why consider elephants to be persons?’ Well, partly that's because if we think about personhood in the vernacular way like when we think about a person, someone who exists and has a mind and a soul and a personality, like in a colloquial sense, that's what we mean. . . . I think humans look at animals and animal social life and say, ‘Elephants are like us.’ That's not necessary from a legal vantage at all. A corporation is a person. A corporation isn't like us, but an elephant is surely more like us than a corporation.” THE TAKEAWAY, https://bit.ly/3rndHNB.

174. The recognition of Amahle, Nolwazi, and Vusmusi's common law right to bodily liberty protected by habeas corpus—and therefore their personhood—will not confer upon them any other right.[308] See, e.g., *Bryan v. Walton* (1853) 14 Ga. 185, 198 (freeing a Black slave only conferred "freedom from the dominion of the master, and the limited liberty of locomotion; . . . it does not and cannot confer *citizenship*, nor any of the powers, civil or political, incident to *citizenship*").

XIII. Three New York decisions denying habeas corpus relief to chimpanzees and an elephant are wrong

175. The following appellate decisions, which do not reflect the law of New York State, erroneously held that a "person" must (1) have the capacity to bear duties and (2) be human. See *People ex rel. Nonhuman Rights Project, Inc. v. Lavery* (3d Dept. 2014) 124 A.D.3d 148, 151-52 n.3 (hereafter *Lavery I*); *Matter of Nonhuman Rights Project, Inc. v. Lavery* (1st Dept. 2017) 152 A.D.3d 73, 78 (hereafter *Lavery II*); *Nonhuman Rights Project Inc v. Breheny* (1st Dept. 2020) 189 A.D.3d 583, 583 (hereafter *Breheny (First Dept.)*).[309]

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[308] "A human being or entity . . . capable of enforcing a particular right, or of owing a particular duty, can properly be described as a person *with that particular capacity*," though not necessarily "a person *with an unlimited set of capacities*." 1 English Private Law § 3.24, 146 (Peter Birks ed. 2000).

[309] These three decisions simply represent the opinions of the First and Third Departments of the Appellate Division. The Fourth Department has recognized that "personhood can and sometimes does attach to nonhuman entities like . . . animals." *Graves*, 163 A.D.3d at 21, citing, inter alia, *Matter of Nonhuman Rights Project, Inc. v. Presti* (4th Dept. 2015) 124 A.D.3d 1334. *Presti* affirmed the denial of habeas corpus relief for a chimpanzee named Kiko. 124 A.D.3d at 1334. However, unlike *Lavery I*, *Lavery II*, and *Breheny (First Dept.)*, the court did not address Kiko's personhood other than to assume without deciding that a chimpanzee could be a "person" for purposes of CPLR article 70. *Id*. at 1335.

176. In *Lavery I*, the Third Department affirmed the dismissal of NhRP's habeas corpus petition filed on behalf of a privately imprisoned chimpanzee named Tommy. *Lavery I* is based on two major errors. First, the court concluded it is the "incapability to bear any legal responsibilities and societal duties that renders it inappropriate to confer upon chimpanzees the legal rights—such as the fundamental right to liberty protected by the writ of habeas corpus—that have been afforded to human beings." 124 A.D.3d at 152. Second, the court concluded chimpanzees are not entitled to legal rights because they are not human. *Id*. at 152 n.3 ("[S]ome humans are less able to bear legal duties or responsibilities than others. . . . [But] it is undeniable that, collectively, human beings possess the unique ability to bear legal responsibility.").

177. After *Lavery I*, the NhRP filed second habeas corpus petitions on behalf of Tommy and another chimpanzee named Kiko. In *Lavery II*, the First Department, combining the appeals of Tommy and Kiko's petitions, affirmed the trial court's dismissals on the procedural ground that the petitions were impermissibly successive under CPLR § 7003(b). 152 A.D.3d at 75-76. In dicta, *Lavery II* perpetuated *Lavery I*'s two errors by concluding that chimpanzees are not legal persons because they cannot bear duties and because they are not human. *Id*.

178. *Breheny (First Dept.)* affirmed the dismissal of Happy's habeas corpus petition. Based on *Lavery II*, the court concluded that "the writ of habeas corpus is limited to human beings." 189 A.D.3d at 583. Happy's case is pending before the Court of Appeals, marking the first time that the highest court of any English-speaking jurisdiction will hear a

habeas corpus case brought on behalf of someone who is not human. See *Breheny*, 36 N.Y.3d at 912.

179. These three decisions are wrong for the following reasons.[310]

a. The jurisprudential literature establishes that personhood does not require the capacity to bear duties and is not limited to humans

180. As discussed, the jurisprudential literature establishes that a "person" need not have the capacity to bear duties or be human. This includes *Lavery I*'s sources, most notably JOHN CHIPMAN GRAY, THE NATURE AND SOURCES OF THE LAW ("*Gray*") and JOHN SALMOND, JURISPRUDENCE ("*Jurisprudence*"). 124 A.D.3d at 151-52.[311]

181. *Lavery I* quoted Professor Gray's statement that "the legal meaning of a 'person' is a subject of legal rights *and* duties," 124 A.D.3d at 152 (emphasis added). However, the court ignored Professor Gray's next qualifying sentences: "One who has rights but not duties, or who has duties but no rights, is . . . a person. . . . [I]f there is anyone who has rights though no duties, or duties though no rights, he is . . . a person in the eye of the law." *Gray* at 27. Thus, "animals may conceivably be legal persons" for two independent reasons: either (1) "because possessing legal rights," or (2) "because subject to legal duties." *Id.* at 42-44.

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[310] The *Commerford Cases* discussed above (*supra*, ¶ 26, n.4) should not be considered by this Court because they heavily relied upon *Lavery I*.

[311] *Lavery I* also cited *Wartelle v. Women's & Children's Hosp., Inc.* (La. 1997) 704 So.2d 778, 780, even though the Louisiana Supreme Court cited with approval a secondary source stating that a "person in a technical sense . . . signi[fies] a subject of rights or duties." 124 A.D.3d at 152.

182. *Lavery I* also cited the Seventh Edition of Black's Law Dictionary for a quote from Professor Salmond's *Jurisprudence*, which allegedly stated: "So far as legal theory is concerned, a person is any being whom the law regards as capable of rights *and* duties." *Id.* at 151 (emphasis added). Actually, Professor Salmond had written "rights *or* duties," not "rights and duties." *Jurisprudence* at 318 (emphasis added). Salmond's next sentence states that "[a]ny being that is so capable [of rights or duties] is a person, whether a human being or not."

183. While *Lavery II* was pending, the NhRP brought Black's error to the attention of its editor-in-chief, Bryan A. Garner, who agreed to correct the error in the Eleventh Edition.[312] The NhRP filed a motion with the First Department seeking leave to submit its correspondence with Mr. Garner.[313] But the court denied the motion notwithstanding the error and adopted *Lavery I*. Even after Black's corrected its error, the First Department affirmed *Lavery II* in *Breheny (First Dept.)*.

b. New York case law establishes that personhood does not require the capacity to bear duties and is not limited to humans

184. *Lavery I*, *Lavery II*, and *Breheny (First Dept.)* conflict with the Court of Appeals decision in *Byrn v. New York City Health & Hosps. Corp.* (1972) 31 N.Y.2d 194 (hereafter *Byrn*), as well as the Fourth Department decision in *Graves*, 163 A.D.3d at 16

185. In *Byrn*, the issue was whether human fetuses were "persons" with the right to life. 31 N.Y.2d at 194. *Byrn* made clear that the capacity for rights is sufficient for

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[312] The corrected sentence reads: "So far as legal theory is concerned, a person is any being whom the law regards as capable of rights *or* duties." Black's (11th ed. 2019) (quoting *Jurisprudence*) (emphasis added).

personhood. *Id.* at 201 ("legal person . . . simply means that upon according legal personality to a thing the law affords it the *rights and privileges* of a legal person") (emphasis added). *Byrn* never mentioned duties, which comports with the understanding that rights and duties are independent of each other.

186. *Byrn* further established that personhood is "not a question of biological or 'natural' correspondence," but is a "policy question" that requires a "policy determination." 31 N.Y.2d at 201. Yet *Lavery I*, *Lavery II*, and *Breheny (First Dept.)*'s personhood conclusions were not based upon policy, but upon the mistake that personhood requires the capacity to bear duties as well as the biological fact that chimpanzees and elephants are not human.

187. The Fourth Department recognized that "personhood can and sometimes does attach to nonhuman entities like . . . animals." *Graves*, 163 A.D.3d at 21.

c. Judge Fahey's concurrence makes clear that personhood does not require the capacity to bear duties and is not limited to humans

188. Judge Fahey rejected *Lavery I* and *Lavery II*'s erroneous conclusion that chimpanzees are not "persons" because they lack the capacity to bear duties:

> Even if it is correct . . . that nonhuman animals cannot bear duties, the same is true of human infants or comatose human adults, yet no one would suppose that it is improper to seek a writ of habeas corpus on behalf of one's infant child . . . or a parent suffering from dementia.

31 N.Y.3d at 1057 (Fahey, J., concurring) (citations omitted).

189. Judge Fahey also criticized *Lavery II*'s "conclusion that a chimpanzee cannot be a 'person' and is not entitled to habeas relief" as being "based on nothing more than the

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[313] See NhRP Mot., https://bit.ly/3DpqBxj.

premise that a chimpanzee is not a member of human species." *Id*. Judge Fahey affirmed "the principle that all human beings possess intrinsic dignity and value," but recognized that "in elevating our species, we should not lower the status of other highly intelligent species." *Id.*

d. Social contract theory does not support the conclusion that personhood requires the capacity to bear duties and is limited to humans

190. The Third Department in *Lavery I* relied upon a demonstrable misunderstanding of social contract theory advanced by an obscure commentator, Richard J. Cupp, Jr. 124 A.D.3d at 151. *Lavery I* uncritically and inappropriately embraced Cupp's views despite them being junk political science, junk philosophy, and junk history that Cupp devised for the purpose of preventing any nonhuman animal from obtaining a legal right. *See State v. Donald DD.* (2014) 24 N.Y.3d 174, 186 (expert testimony "'amount[ed] to junk science devised for the purpose of locking up dangerous criminals'") (citation omitted); *People v. Wesley* (1994) 83 N.Y.2d 417, 422 (in deciding whether to accept an expert opinion or reject it as junk, a court should utilize a *Frye* test).[314]

191. Relying upon two of Cupp's erroneous law review articles, *Lavery I* erroneously stated that "[r]eciprocity between rights and responsibilities stems from principles of social contract," and that "[u]nder this view, society extends rights in exchange

[314] See also *People v. Johnson* (1993)19 Cal.App.4th 778, 790 ("'A witness cut loose from time-tested rules of evidence to engage in purely personal, idiosyncratic speculation offends legal tradition quite as much as the tradition of science. Unleashing such an expert in court is not just unfair, it is inimical to the pursuit of truth. The expert whose testimony is not firmly anchored in some broader body of objective learning is just another lawyer, masquerading as a pundit.') (Huber, Galileo's Revenge: Junk Science in the Courtroom (2d ed. 1993) p. 204.)").

for an express or implied agreement from its members to submit to social responsibilities." 124 A.D.3d at 151 (citing, inter alia, Richard L. Cupp, Jr., *Children, Chimps, and Rights: Arguments from "Marginal" Cases*, 45 ARIZ. ST. L. J. 1, 12-14 (2013), Richard L. Cupp, Jr., *Moving Beyond Animal Rights: A Legal/Contractualist Critique*, 46 SAN DIEGO L. REV. 27, 69-70 (2009)). "In other words, 'rights [are] connected to moral agency and the ability to accept societal responsibility in exchange for [those] rights.'" 124 A.D.3d at 151 (quoting Cupp, 45 ARIZ. ST. L. J. at 13).[315]

192. However, natural rights, including the right to bodily liberty, do not depend on the existence of a social contract. Amici philosophers in *Breheny* explained that the quid pro quo notion of "persons" receiving rights in exchange for bearing duties "is not how political philosophers have understood the meaning of the social contract historically or in contemporary times." Br. of *Amici Curiae* Philosophers 13, https://bit.ly/3FkDcmp. This includes influential pioneers of social contract theory such as Thomas Hobbes, John Locke, and Jean-Jacques Rousseau, "who maintain that all persons have 'natural rights' that they possess independently of their willingness or ability to take on social responsibilities." *Id.* at 12.

[315] *Lavery I*'s gross misunderstanding of social contract theory, including its reliance upon Cupp's two articles, has been the subject of severe criticism in legal scholarship. See generally Craig Ewasiuk, *Escape Routes: The Possibility of Habeas Corpus Protection for Animals Under Modern Social Contract Theory*, 48.2 COLUM. HUM. RTS. L. REV. 70, 77-87 (2017). Regarding Cupp's claim that rights depend upon the ability to bear duties, Ewasiuk demonstrated that Cupp's two articles "do not provide support from primary source materials. On most occasions, Cupp cites unsupportive passages in secondary sources. On rarer occasions, when locating support, he cites a secondary source which in turn cites another secondary source, which in turn either provides no evidence from primary source material or inaccurately interprets the primary source materials." *Id.* at 78.

193. Similarly, the Connecticut Supreme Court explained that "social compact theory posits that all individuals are born with certain natural rights and that people, in freely consenting to be governed, enter a social compact with their government by virtue of which they relinquish certain individual liberties in exchange 'for the mutual preservation of their lives, liberties, and estates.'" *Moore v. Ganim* (1995) 233 Conn. 557, 598 (citing, inter alia, II JOHN LOCKE, TWO TREATISES OF GOVERNMENT 184, ¶ 123 (Hafner Library of Classics ed. 1961).[316] Since all individuals are born with certain natural rights, these individuals are "persons" prior to entering social contracts.

194. Indeed, social contracts create citizens, not persons:

> It follows from social contract theory that all contractors must be persons, but not that all persons must necessarily be contractors. There can be persons who are not contractors—either because they choose not to contract (e.g., adults who opt for life in the state of nature) or because they cannot contract (e.g., infants and some individuals with cognitive disabilities). Social contract philosophers have never claimed—not now, not in the 17th century—that the social contract can endow any being with personhood. The contract can only endow citizenship on persons who exist prior to the contract and agree to it. Personhood, therefore, must be presupposed as a characteristic of contractors in social contract theories.

Philosopher's Br. at 15-16.

XIV. Amahle, Nolwazi, and Vusmusi must be discharged and transferred to an appropriate elephant sanctuary

195. Upon the recognition of Amahle, Nolwazi, and Vusmusi's common law right to bodily liberty protected by habeas corpus, this Court must order them discharged as no

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[316] The *Commerford Cases*' understanding of social compact theory therefore contravenes *Moore v. Ganim*. The Connecticut Supreme Court also made clear that an individual need not be a party to the social compact for habeas corpus relief. See *Jackson v. Bulloch* (1837) 12 Conn. 38, 43 (slave freed pursuant to habeas corpus notwithstanding that slaves were not parties to the social compact).

legal cause exists for their imprisonment by Respondents at the Fresno Zoo. See Cal. Penal Code § 1485 ("If no legal cause is shown for such imprisonment or restraint, or for the continuation thereof, such Court or Judge must discharge such party from the custody or restraint under which he is held.").

196. Amahle, Nolwazi, and Vusmusi's autonomy and extraordinary cognitive complexity are sufficient for the recognition of their common law right to bodily liberty protected by habeas corpus. Respondents' imprisonment of the elephants violates their right to bodily liberty by depriving them of the ability to meaningfully exercise their autonomy and extraordinary cognitive complexity, including the freedom to choose where to go, what to do, and with whom to be. This imprisonment is therefore unlawful under the common law.[317] See, e.g., *Somerset*, 1 Lofft. at 19 ("[t]he state of slavery is . . . so odious, that nothing can be suffered to support it" under the common law).[318]

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[317] Whether Respondents comply with animal welfare statutes is irrelevant to the unlawfulness of the elephants' imprisonment as those statutes do not address the right to bodily liberty.

[318] See also *Lemmon v. People* (1860) 20 N.Y. 562, 617 ("Slavery is repugnant to natural justice and right, has no support in any principle of international law, and is antagonistic to the genius and spirit of republican government. Besides, liberty is the natural condition of men."); *Whitford v. Panama R.R. Co.* (1861) 23 N.Y. 465, 467-68, overruled in part on other grounds by *Farber v. Smolack* (1967) 20 N.Y.2d 198 ("*Prima facie*, a man is entitled to personal freedom and the absence of bodily restraint, and to be exempt from physical violence to his person, everywhere."); *People ex. rel Caldwell v. Kelly* (Sup. Ct. 1862) 35 Barb. 444, 457-58 (Potter, J., concurring) ("Liberty and freedom are man's natural conditions; presumptions should be in favor of this construction. . . . and I think should be applied to the decision of this case."); *In re Hall* (1882) 50 Conn. 131, 137 ("All restrictions upon human liberty . . . are to be regarded as having the presumption of law against them."); *State v. Oquendo* (1992) 223 Conn. 635, 650 ("no man can be restrained of his liberty . . . or be in any way imprisoned, or confined, unless by virtue of the express laws of the land") (quoting ZEPHANIAH SWIFT, A DIGEST OF THE LAWS OF THE STATE OF CONNECTICUT 180 (1795)).

197. Accordingly, this Court must order the elephants discharged and transferred to an appropriate elephant sanctuary that will provide them with the ability to exercise their autonomy to the greatest degree possible.[319]

198. California courts grant habeas corpus relief to individuals even when they cannot be released onto the streets. See, e.g., *Ex parte McGuire* (1902) 135 Cal. 339, 343 ("[T]he imprisonment of the petitioner in the county jail . . . is unwarranted and illegal, but it does not follow, as he contends, that he should be set at liberty. He is entitled to the benefit of the writ of habeas corpus only so far as necessary to secure him in his legal right to be placed in the proper custody. It is therefore ordered that he be remanded to the custody of the sheriff for the purpose of delivery forthwith to the warden of the state prison.").[320]

199. "In fashioning an appropriate remedy in this case, we must keep in mind habeas corpus is at its core, an equitable remedy."[321] *People v. Booth* (2016) 3 Cal.App.5th

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[319] "For elephants in captivity, especially those born into it or kept there for a majority of their lives, going back to the 'wild' is unfortunately not an option. For these elephants, human-run sanctuaries are currently the best option." Poole Aff. ¶ 57.

[320] See also *Ex parte Thomas* (Cal. 1897) 51 P. 1100, 1100 ("it is ordered that Manuel Thomas be discharged from the custody of the superintendent of the Whittier School, and restored to the custody of his mother"); *Ex parte Moilanen* (1951) 104 Cal.App.2d 835, 844 (1951) ("The said minor . . . is hereby released and discharged from custody, and ordered returned to her mother"); *Ex parte Kelley* (1921) 56 Cal.App. 34, 37 ("It is therefore ordered that the minor be discharged from the illegal detention and custody in which he is held and committed to the custody of petitioner herein.").

[321] Judge Fahey agreed with the NhRP that seeking the transfer of chimpanzees to a sanctuary is proper under habeas corpus. *Tommy*, 31 N.Y.3d at 1058-59 (Fahey J., concurring). See also *Stanley*, 49 Misc.3d at 772 n.2 (rejecting government's argument that, because the NhRP sought two chimpanzees' release "to a chimpanzee sanctuary, it has no legal recourse to habeas corpus"); *Presented by A.F.A.D.A. About the Chimpanzee "Cecilia" – Nonhuman Individual*, File No. P-72.254/15 at 32 (Nov. 3, 2016) (Argentina)

1284, 1312 (internal quotations omitted). The writ "demands that it be administered with the initiative and flexibility essential to insure that miscarriages of justice within its reach are surfaced and corrected." *Id.* (internal quotations omitted). "When habeas relief is warranted, our power . . . extend[s] to disposing of him as the justice of the case may require." *Id.* at 1313 (internal quotations and citations omitted); see also Cal. Penal Code § 1484 ("The Court or Judge must . . . dispose of such party as the justice of the case may require.").

200. Justice, in this case, requires sending Amahle, Nolwazi, and Vusmusi to an appropriate elephant sanctuary. The elephants' imprisonment at the Fresno Zoo deprives them of their physical and psychological needs, including the need to exercise their autonomy.[322] "Their lives are nothing but a succession of boring and frustrating days, damaging to their bodies and minds, and punctuated only by interaction with their keepers."[323] There is no opportunity for the elephants to use their extraordinarily complex cognitive capacities to explore, appropriately forage, problem solve, communicate over distance, or employ their wide-ranging vocalizations.[324] The elephants spend at least half of each day (if not more) in a barn standing on concrete, and when allowed outside they are

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(ordering chimpanzee's transfer to a sanctuary pursuant to habeas corpus), https://bit.ly/2XHOH7z.

[322] Lindsay Aff. ¶ 50.

[323] *Id.* at ¶ 68.

[324] *Id.* at ¶¶ 61, 63, 69

unable to walk more than 100 yards in any direction.[325] Their acute hearing is bombarded by continuous auditory disturbances "from major transportation arteries on all four sides of their enclosure."[326] In short, the Fresno Zoo is no place for elephants.

201. Amahle, Nolwazi, and Vusmusi could still lead something approaching a normal life at an appropriate elephant sanctuary.[327] The reasons "relate to the orders of magnitude of greater space that is offered in sanctuaries. Such space permits autonomy and allows elephants to develop more healthy social relationships and to engage in near natural movement, foraging, and repertoire of behavior."[328]

PRAYER FOR RELIEF

Petitioner, The NhRP, respectfully requests the Court do the following:

1. Issue an Order to Show Cause why habeas corpus relief should not be granted;

2. Conduct an appropriate hearing;

3. Order Amahle, Nolwazi, and Vusmusi discharged from their unlawful imprisonment at the Fresno Zoo;

4. Order Amahle, Nolwazi, and Vusmusi transferred to an appropriate elephant sanctuary—such as The Performing Animal Welfare Society, The Tennessee Elephant

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[325] *Id*. at ¶ 68.

[326] *Id*.

[327] *Id*. at ¶ 69.

[328] Poole Aff. ¶ 57.

Sanctuary, or Elephant Refuge North America—where they can enjoy their autonomy to the greatest extent possible;

5. Grant all other relief necessary for the just resolution of this case.

May 3, 2022

Respectfully submitted,

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**Pro hac vice pending*
Attorneys for Petitioner

Jake M. Davis*
**Pro hac vice pending*
Attorneys for Petitioner

Verification

I, Monica Miller, declare as follows:

1. I am an attorney admitted to practice law in the State of California, and one of the attorneys representing Amahle, Nolwazi, and Vusmusi in this action. I have my office in Novato, California. I am making this verification on behalf of Amahle, Nolwazi, and Vusmusi under California Code of Civil Procedure section 446(a) because, as nonhuman animals, Amahle, Nolwazi, and Vusmusi are not able to verify this Petition.

2. I have read this Petition for a common law Writ of Habeas Corpus. I verify that the facts alleged in this Petition, which are not otherwise supported by the attached exhibits, declarations, and affidavits, are true of my own personal knowledge and belief.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct.

Executed on May 3, 2022.

Monica L. Miller

Exhibit 1

COUNTRY OF KENYA)
)
CITY OF AMBOSELI) ss:
)
COUNTY OF KAJIADO)

Affidavit of Cynthia J. Moss

Cynthia J. Moss being duly sworn, deposes and says:

Introduction and Qualifications

1. My name is Cynthia J. Moss.

2. I am over the age of 18 and understand the obligations of an oath.

3. I graduated with a Bachelor of Arts in Philosophy from Smith College in 1962, and received an honorary Doctorate of Science from Smith College in 2002 and an honorary Doctorate of Social Science from Yale University in 2019. I reside and work in Amboseli National Park, Kenya.

4. I submit this affidavit in support of Petitioner the Nonhuman Rights Project, Inc. (NhRP), on behalf of the captive elephant named above for a common law writ of habeas corpus. I am a nonparty to this proceeding.

5. I have studied and worked with elephants in Africa for the past 50 years. I am currently the Director of the Amboseli Elephant Research Project and have been since 1972, and I am currently the Director of the Amboseli Trust for Elephants and have been since 2001. Prior to founding the Amboseli Elephant Research Project, I worked: (1) as the editor for the African Wildlife Foundation's Wildlife News from 1971 to 1985; (2) part-time as a freelance journalist, mainly for Time and Life magazines, from 1970 to 1971; (3) as a research assistant on various projects with Drs. A.M. and S. Harthoorn, Dr. V. Finch, and Dr. J.B. Sale, consecutively from 1969-1970; (4) a research assistant to Dr. I. Douglas-Hamilton full time in 1968 and part-time in 1969, 1970, and 1971; (5) a reporter/researcher for Newsweek Magazine in New York from 1964 to 1968.

6. As Director of the Amboseli Elephant Research Project, and also as the director of the Amboseli Trust for Elephants, I have set up the world's longest-running research project on wild elephants in the Amboseli National Park, Kenya. My research focus incorporates the

distribution, demography, population dynamics, social organization and behavior of the Amboseli elephants. My current work includes directing and supervising research and monitoring in the Amboseli National Park; training elephant researchers from African elephant range states; outreach to the local Maasai community; carrying out surveys and training courses at other elephant study sites in Africa; disseminating scientific results; advocating for elephant welfare; promoting public awareness by writing popular articles and books and by making films about elephants; and fund raising for and administering the Amboseli Elephant Research Project.

7. Over the course of my career, I have received awards from international nongovernmental, media, academic, research, zoological, and professional organizations, including: (1) the Outstanding Achievement Award from the Jackson Hole Wildlife Film Festival in 2015; (2) the John D. & Catherine T. MacArthur Foundation Fellowship (2002-2007); (3) the Conservation Award from the Cincinnati Zoo in 2005; (4) the Guardian Award from In Defense of Animals in 2004; (5) the Distinguished Conservation Fellow Award from the Los Angeles Zoo in 2002; (6) my Honorary Doctorate Degree from Smith College in 2002; (7) an Award from Performing Animal Welfare Society in 2002; (8) elected Fellow of the Society of Women Geographers in 2001; (9) Advisor to the International Fund for Animal Welfare, ongoing since 2001; (10) sabbatical Fellowships at the National Center for Ecological Analysis & Synthesis, University of California, Santa Barbara (1999, 2000, 2001); (11) the Centennial Conservation Award from the Woodland Park Zoo in 1999; (12) the Conservation Excellence Award from the Oakland Zoo in 1999; (13) my book Little Big Ears received an award from the John Burroughs Foundation and the American Museum of Natural History in 1998; (14) elected Fellow of the Royal Geographical Society in 1997; (15) my film "Echo of the Elephants" received awards at Jackson Hole Wildlife Film Festival and the Italian Film Festival in 1993; (16) the Smith College Medal for alumnae achievement in 1985; (and 17) nomination of my book "Portraits in the Wild: Behavior Studies of East African Mammals" (1975, Houghton Mifflin, Boston) for the American Book Award for best science paperback of the year in 1982.

8. I am affiliated with a number of professional organizations, including: (1) the Author's Guild; (2) the Royal Geographic Society (elected Fellow); (3) the Society of Women Geographers (elected Fellow); (4) the Explorer's Club (Fellow); (5) the East African Natural History Society; (6) the East African Wild Life Society; (7) the Kenya Society for the Protection & Care of Animals; and (8) PEN America. I was a member of the IUCN/SSC African Specialist Group from 1988-1996. Throughout my career, I have continued to lecture on elephant social organization and behavior to university students, wildlife club members, and specialist groups in Kenya, India, the US, and the United Kingdom. I have also served as a Consultant to conservation groups, animal welfare organizations, zoos, and others on elephant-related issues throughout my career.

9. During the course of my research career, I have been awarded extramural research grants from a number of institutions and groups including: (1) the African Wildlife Foundation in 1975; (2) the Midgard Foundation from 1978-1979; (3) the New York Zoological Society as a Research Fellow from 1979-1984; (4) the Disney Conservation Foundation from 1996-2006; (5) the Delano Foundation from 1996-1999; (6) the International Fund for Animal Welfare (IFAW), ongoing; (7) Born Free Foundation, ongoing; (8) Detroit Zoological Society, ongoing; (9) East Bay Zoological Society, ongoing; (10) Detroit Zoological Society, ongoing; (11) Rettet die Elefanen, ongoing; (12) Fairplay Foundation, ongoing; (13) Rogers Family Foundation, ongoing; (14) Charles Engelhard Foundation, ongoing; and (15) Maue Kay Foundation, ongoing.

10. I have written six books concerning my work with elephants, including: (1) Portraits in the Wild: Behavior Studies of East African Mammals. (1975, Houghton Mifflin, Boston); (2) Portraits in the Wild: Behavior Studies of East African Mammals (Second Edition – Revised, 1982, University of Chicago Press, Chicago); (3) Elephant Memories: Thirteen Years in the Life of an Elephant Family. (1988, William Morrow, New York, also in Swedish, Finnish, Dutch, Italian, French & Spanish editions); (4) Die Elefanten Vom Kilmandscharo. (1990, Rasch und Rohring, Hamburg, German edition of Elephant Memories, with an additional chapter covering 1987-90); (5) Echo of the Elephants. (1992, BBC Books, London,

also in U.S., German and Japanese editions); (6) Little Big Ears: The Story of Ely. (1997, Simon & Schuster, New York).

11. I have served as co-editor for two books regarding my work with elephants: (1) Elephant Woman (with Laurence Pringle, 1997, Atheneum, New York), and (2) The Amboseli Elephants: A Long-Term Perspective on a Long-Lived Mammal (co-edited with H.J. Croze & P.C. Lee), 2011, University of Chicago Press, Chicago.)

12. Over the course of my career, I have also contributed chapters concerning elephant cognition and welfare to five additional books: (1) The World Book Encyclopedia (1991, Chicago: World Book); (2) Elephants: Majestic creatures of the wild (1992, editor - J. Shoshani, Weldon Owen, Sydney); (3) The Smile of a Dolphin: Remarkable Accounts of Animal Emotions (2000, editor - M. Bekoff, Discovery Books, New York); (4) Never Forgetting: Elephants and Ethics (2008, editors - C. Wemmer and K. Christen, Johns Hopkins University Press); and (5) An Elephant in the Room: the Science and Well-being of Elephants in Captivity (2009, editor - D. Forthman, Tufts University Press).

13. I have published 65 peer-reviewed scientific articles on the social structure, vocalization and communication (both short and long-range), cognition, mating behavior, maternal behavior, techniques for aging, determining diet and habitat use, mourning behavior, and elephant identification via sight and odor of human tribal groups. These articles have been published in many of the world's premier scientific journals and books, including: Nature, Science, PLoS One, Animal Behaviour, Behaviour, Journal of Wildlife Management, Behavioral Ecology and Sociobiology, Pachyderm, Journal of Zoology, Mammalian Social Learning, Molecular Ecology Notes, Biology Letters, Molecular Ecology, Current Biology, Journal of Consciousness Studies, Animal Welfare, and the Journal of Wildlife Diseases. My scientific work has also been published in: Symposium of the Zoological Society of London, Proceedings 2nd International NCRR Conference, A Research Update on Elephants and Rhinos: Proceedings of the International Elephant and Rhino Research Symposium, and Proceedings of the Royal Society B. Specific topics of these publications include: musth in the African elephant, oestrus behavior and female choice in the African elephant, age estimation and population age structure of elephants from footprint dimensions, early maternal investment

in male and female African elephant calves, social context of some very low frequency calls of African elephants, isotopic tracking of change in diet and habitat use in African elephants, statural growth in known-age African elephants, social context for learning and behavioural development among wild African elephants, matriarchs as repositories of social knowledge in African elephants, characterization of tetranucleotide microsatellite loci in the African Savannah Elephant, long-distance communication of cues to social identity in African elephants, locus size predicts the rate of allelic dropout in two large-scale noninvasive genotyping projects, early disruption of attachment can affect the physiology, behavior, and culture of animals and humans over generations, genetic relatedness predicts fission and fusion of social groups in wild African elephants, elephants show high levels of interest in the skulls and ivory of their own species, elephants classify human ethnic groups by odour and garment colour, can elephants show empathy, and fecundity and population viability in female zoo elephants.

14. In addition to my scientific publications, I have also published 30 articles in more general audience publications, including: Smithsonian, New York Times Book Review, BBC Wildlife, New Scientist, the Sunday Times Magazine, Australian Women's Weekly, Wildlife News, Ms., Swara, International Wildlife, Wildlife, Animal Kingdom, Nature's Best, ASPCA's Animal Watch, Disney's Animal Kingdom, and Geospatial Solutions.

15. In addition to my academic and general audience articles, I have also written film scripts and provided scientific consulting for several films, including: (1) "Echo of the Elephants" (1990-1992, BBC Natural History Unit, received awards at Jackson Hole Wildlife Film Festival and Italian Film Festival); (2) "Echo of the Elephants: The Next Generation" (1992-1995, BBC Natural History Unit); (3) "Africa's Forgotten Elephants" (1996-1997, Scorer Associates for BBC); (4) "Echo of the Elephants: The Last Chapter?" (2002-2005, BBC Natural History Unit); (5) "Echo and the Elephants of Amboseli (2007-2008, Animal Planet, 13-part series); (6) "Echo: An Elephant to Remember" (2009-2010, BBC Natural History Unit); and (7) "An Apology to Elephants" (2013, HBO).

16. My Curriculum Vitae fully sets forth my educational background and experience and is annexed hereto.

Basis for opinions

17. The opinions I state in this Affidavit are based on my professional knowledge, education, training, and years of experience observing and studying elephants, as well as my knowledge of peer-reviewed literature about elephant behaviour and intelligence published in the world's most respected journals, periodicals and books that are generally accepted as authoritative in the field, and many of which were written by myself or colleagues whom I have known for several years and with whose research and field work I am personally familiar. A full reference list of peer-reviewed literature cited herein is annexed hereto.

Opinions

Premise

18. Autonomy in humans is defined as self-determined behaviour that is based on freedom of choice. As a psychological concept it implies that the individual is directing their behaviour based on some non-observable, internal cognitive process, rather than simply responding reflexively. Although we cannot directly observe these internal processes in other people, we can explore and investigate them by observing, recording and analysing behaviour. For non-human animals, observing similar behaviour and recording evidence of shared cognitive capacities should, parsimoniously, lead to similar conclusions about autonomy.

19. I shall indicate which species, African (*Loxodonta Africana*) or Asian (*Elephus maximus*), specific observations relate to. If the general term 'elephants' is used with no specific delineation, it can be assumed the comment relates to both species.

Brain And Development

20. Elephants are large-brained, with the biggest absolute brain size of any land animal (Cozzi et al 2001; Shoshani et al 2006). Even relative to their body sizes, elephant brains are large. Encephalization quotients (EQ) are a standardised measure of brain size relative to body size, and illustrate by how much a species' brain size deviates from that expected for its body size. An EQ of one means the brain is exactly the size expected for that body, and values greater than one indicate a larger brain than expected (Jerison 1973). Elephants have an EQ of between

1.3 and 2.3 (varying between sex and African and Asian species). This means an elephant's brain can be up to two and a half times larger than is expected for an animal of its size; this EQ is similar to that of the great apes, with whom elephants have not shared a common ancestor for almost 100 million years (Eisenberg 1981, Jerison 1973). Given how metabolically costly brain tissue is, the large brains of elephants must confer significant advantages; otherwise their size would be reduced. Presumably this advantage is allowing greater intelligence and behavioural flexibility (Bates et al 2008).

21. Generally, mammals are born with brains weighing up to 90% of the adult weight. This figure drops to about 50% for chimpanzees. Human baby brains weigh only about 27% of the adult brain weight (Dekaban & Sadowsky 1978). This long period of brain development over many years (termed 'developmental delay') is a key feature of human brain evolution and is thought to play a role in the emergence of our complex cognitive abilities, such as self-awareness, creativity, forward planning, decision making and social interaction (Bjorkland 1997). Delayed development provides a longer period in which the brain may be shaped by experience and learning (Furster 1992). Elephant brains at birth weigh only about 35% of their adult weight (Eltringham 1982), and elephants show a similarly protracted period of growth, development and learning (Lee 1986). This similar developmental delay in the elephant brain is therefore likely associated with the emergence of similarly complex cognitive abilities.

22. Despite nearly 100 million years of separate evolution (Hedges 2001), elephants share certain characteristics of our large brains, namely deep and complex folding of the cerebral cortex, large parietal and temporal lobes, and a large cerebellum (Cozzi et al 2001). The temporal and parietal lobes of the cerebral cortex manage communication, perception, and recognition and comprehension of physical actions (Textbook ref), while the cerebellum is involved in planning, empathy, and predicting and understanding the actions of others (Barton 2012). Thus, the physical similarities between human and elephant brains occur in areas that are relevant to capacities necessary for autonomy and self-awareness.

23. Elephant brains hold nearly as many cortical neurons as do human brains, and a much greater number than chimpanzees or bottlenose dolphins (humans: 1.15×10^{10}; elephants: 1.1×10^{10}, chimpanzees: 6.2×10^{9}; dolphins: 5.8×10^{9}, Roth & Dicke 2005). Elephants'

pyramidal neurons (a class of neuron that is found in the cerebral cortex, particularly the pre-frontal cortex - the brain area that controls executive functions) are larger than in humans and most other species (Cozzi et al 2001). The degree of complexity of pyramidal neurons is linked to cognitive ability, with more (and more complex) connections between pyramidal neurons being associated with increased cognitive capabilities (Elston 2003). Elephant pyramidal neurons have a large dendritic tree, i.e. a large number of connections with other neurons for receiving and sending signals (Cozzi et al 2001).

24. Elephants, like humans, great apes and some cetaceans, possess *von Economo neurons*, or spindle cells – the so-called 'air-traffic controllers for emotions' - in the anterior cingulate, fronto-insular, and dorsolateral prefrontal cortex areas of the brain (Hakeem et al 2009). In humans, these cortical areas are involved - among other things - in the processing of complex social information, emotional learning and empathy, planning and decision-making, and self-awareness and self-control (Allman et al 2001; Allman et al 2002; Allman et al 2011). The shared presence of spindle cells in the same brain locations in elephants and humans strongly implies these higher-order brain functions – the building blocks of autonomous, self-determined behaviour - are common between these species (Butti et al 2009; Hakeem et al 2009).

25. As described below, evidence demonstrates that along with these common brain and life-history characteristics, elephants share many behavioural and intellectual capacities with humans, including: self-awareness, empathy, awareness of death, intentional communication, learning, memory, and categorisation abilities. Many of these capacities have previously been considered – erroneously - to be uniquely human, and each is fundamental to and characteristic of autonomy and self-determination.

Awareness Of Self And Others

26. Asian elephants have been shown to exhibit Mirror Self Recognition (MSR) using Gallup's classic 'mark test' (Gallup 1970; Plotnik et al 2006). MSR is the ability to recognise a reflection in the mirror as oneself, and the mark test involves surreptitiously placing a coloured mark on an individual's forehead that it could not see or be aware of without the aid

of a mirror. If the individual uses the mirror to investigate the mark, it is logical to assume that the individual recognises the reflection as itself. Almost all animals tested on this task fail: they do not recognise the image in the mirror as being a reflection of themselves. Indeed, the only other mammals beyond humans who have successfully passed the mark test and exhibit MSR are the great apes (chimpanzees, bonobos, gorillas and orangutans) and bottlenose dolphins (Parker and Mitchell 1994, Reiss and Marino 2001). MSR is significant because it is considered to be the key identifier of self-awareness. Self-awareness is intimately related to autobiographical memory in humans (Prebble et al 2011), and is central to autonomy and being able to direct one's own behaviour to achieve personal goals and desires. By demonstrating that they can recognize themselves in a mirror, elephants must be holding a mental representation of themselves from another perspective, and thus be aware that they are a separate entity from others (Bates and Byrne 2014).

27. Related to possessing a sense of self is an understanding of death. Observing reactions to dead family or group members suggests an awareness of death in only two animal genera beyond humans; chimpanzees and elephants (Anderson et al 2010, Douglas-Hamilton et al 2006). Having a mental representation of the self – a pre-requisite for mirror-self recognition – probably also confers an ability to comprehend death. Wild African elephants have been shown experimentally to be more interested in the bones of dead elephants than the bones of other animals (McComb et al 2006), and they have frequently been observed using their tusks, trunk or feet to attempt to lift sick, dying or dead individuals (refs in Poole & Granli signals chapter, Amboseli book). Although they do not give up trying to lift or elicit movement from the body immediately, elephants appear to realise that once dead, the carcass cannot be helped anymore, and instead they engage in more 'mournful' behaviour, such as standing guard over the bodies, and apparently protecting it from the approaches of predators (refs in Poole & Granli signals chapter, Amboseli book). They also have been observed to cover the bodies of dead elephants with dirt and vegetation (Moss 1992; Poole 1996). In the particular case of mothers who lose a calf, although they may remain with the calf's body for an extended period, they do not behave towards the body as they would a live calf. Indeed, the general demeanour of elephants who are attending to a dead elephant is one of grief and compassion, with slow

movements and few vocalisations (Poole, pers. comm.). These behaviours are akin to human responses to the death of a close relative or friend, and illustrate that elephants possess some understanding of life and the permanence of death.

28. The capacity for mentally representing the self as an individual entity has been linked to general empathic abilities (Gallup 1982), where empathy can be defined as identifying with and understanding another's experiences or feelings by imagining what it would be like to be in their situation. Empathy is an important component of human consciousness and autonomy, and is a cornerstone of normal social interaction. It goes beyond merely reading the emotional expressions of others. It requires modelling of the emotional states and desired goals that influence others' behaviour both in the past and future, and using this information to plan one's own actions; empathy is only possible if one can adopt or imagine another's perspective, and attribute emotions to that other individual (Bates et al 2008). Empathy is, therefore, a component of and reliant on 'Theory of Mind' - the ability to mentally represent and think about the knowledge, beliefs and emotional states of others, whilst recognising that these can be distinct from your own knowledge, beliefs and emotions (Premack and Woodruff// Frith and Frith 2005).

29. Elephants clearly and frequently display empathy in the form of protection, comfort and consolation, as well as by actively helping those who are in difficulty, such as assisting injured individuals to stand and walk, or helping calves out of rivers or ditches with steep banks (Bates et al 2008, Lee 1987). Elephants have even been observed feeding those who are not able to use their own trunks to eat (see Poole and Granli signals chapter in Amboseli book).

30. In an analysis of behavioural data collected from wild African elephants over a 43-year continuous field study, we concluded that as well as possessing their own intentions, elephants can diagnose animacy and goal directedness in others, understand the physical competence and emotional state of others, and attribute goals and mental states (intentions) to others (Bates et al 2008), as evidenced in the examples below:

'IB family is crossing river. Infant struggles to climb out of bank after its mother.

An adult female [not the mother] is standing next to calf and moves closer as the infant struggles. Female does not push calf out with its trunk, but digs her tusks into the mud behind the calf's front right leg which acts to provide some anchorage for the calf, who then scrambles up and out and rejoins mother.'

'At 11.10ish Ella gives a 'lets go' rumble as she moves further down the swamp . . . At 11.19 Ella goes into the swamp. The entire group is in the swamp except Elspeth and her calf [<1 year] and Eudora [Elspeth's mother]. At 11.25 Eudora appears to 'lead' Elspeth and the calf to a good place to enter the swamp — the only place where there is no mud.'

Examples such as these demonstrate that the acting elephant (the adult female in the first example, and Eudora in the second) was able to understand the intentions of the other (the calf in the first case, and Elspeth in the second) – i.e. to either climb out of or into the water – and they could adjust their own behaviour in order to counteract the problem being faced by the other. Whilst humans may act in this helpful manner on a daily basis, such interactions have been recorded for very few non-human animals (Bates et al 2008).

31. Experimental evidence from captive African elephants further demonstrates that elephants attribute intentions to others, as they follow and understand human pointing gestures - the only animal so far shown to do so spontaneously. The elephants understood that the human experimenter was pointing in order to communicate information to them about the location of a hidden object (Smet and Byrne 2013). Attributing intentions and understanding another's reference point is central to empathy and theory of mind.

32. Evidence of 'natural pedagogy' is rare among non-human animals, with only a few potential examples of true teaching (whereby the teacher takes into account the knowledge states of the learner as they pass on relevant information) recorded anecdotally in chimpanzees (Boesch 1991) and killer whales (Guinet and Bouvier 1995)[1]. Teaching is therefore still widely considered to be unique to humans (Csibra and Gergely 2009). Our analysis of simulated

[1] Functional teaching has been experimentally demonstrated in various animal species including ants, babblers, meerkats, cheetahs and some primates, but this is not the same as deliberate pedagogy, as it does not rely on representing the knowledge states of the learners.

oestrus behaviours in African elephants – whereby a non-cycling, sexually experienced older female will simulate the visual signals of being sexually receptive, even though she is not ready to mate or breed again – shows that these knowledgeable females adopt false oestrus behaviours in order to demonstrate to naïve young females how to attract and respond appropriately to suitable males. The experienced females may be taking the youngsters lack of knowledge into account and actively showing them what to do; a possible example of true teaching as it is defined in humans. Whilst this possibility requires further investigation, this evidence, coupled with the data showing that they understand the ostensive cues in human pointing, suggests that elephants do share some executive skills with humans, namely understanding the intentions and knowledge states (minds) of others.

33. Further related to empathy, coalitions and cooperation have been documented in wild African elephants, particularly to defend family members or close allies from (potential) attacks by outsiders, such as when a family group tries to 'kidnap' a calf from an unrelated family (Lee 1987, Moss and Poole 1983). These behaviours are based on one elephant understanding the emotions and goals of the coalition partner (Bates et al 2008).

34. Cooperation is also evident in experimental tests with captive Asian elephants, whereby elephants demonstrated they can work together in pairs to obtain a reward, and understood that it was pointless to attempt the task if their partner was not present or could not access the equipment (Plotnik et al 2011). Problem-solving and working together to achieve a collectively desired outcome involve mentally representing both a goal and the sequence of behaviours that is required to achieve that goal; it is based on (at the very least) short-term action planning.

35. Wild elephants have frequently been observed engaging in cooperative problem solving, for example when retrieving calves that have been kidnapped by other groups, or when helping calves out of steep, muddy river banks (Bates et al 2008, Moss Amboseli book…) These behaviours demonstrate the purposeful and well-coordinated social system of elephants, and show that elephants can hold particular aims in mind and work together to achieve those goals. Such intentional, goal-directed action forms the foundation of independent agency, self-determination, and autonomy.

36. Elephants also show innovative problem solving in experimental tests of insight (Foerder et al 2011), where insight can be defined as the 'a-ha' moment when a solution to a problem 'suddenly' becomes clear. (In cognitive psychology terms, insight is the ability to inspect and manipulate a mental representation of something, even when you can't physically perceive or touch the something at the time. Or more simply, insight is thinking and using only thoughts to solve problems (Byrne, in press). A juvenile male Asian elephant demonstrated just such a spontaneous action by moving a plastic cube and standing on it to obtain previously out-of-reach food. After solving this problem once, he showed flexibility and generalization of the technique to other, similar problems by using the same cube in different situations, or different objects in place of the cube when it was not available. This experiment again demonstrates that elephants can choose the appropriate action and incorporate it into a sequence of behaviour in order to achieve a goal, which they kept in mind throughout the process.

37. Further experiments also demonstrate Asian elephants ability to understand goal-directed behaviour. When presented with food that was out of reach, but with some bits resting on a tray that could be pulled within reach, the elephants learned to pull only those trays that were baited with food (Irie-Sugimoto et al 2007). Success in this kind of 'means-end' task is a demonstration of causal knowledge, which requires understanding not just that two events are associated with each other but also that there is some mediating force that connects and affects the two which may be used to predict and control events. Moreover, understanding causation and inferring object relations may be related to understanding psychological causation, i.e., the appreciation that others are animate beings that generate their own behaviour and have mental states (e.g., intentions).

Communication and social learning

38. Speech is a voluntary behaviour in humans, whereby a person can choose whether to utter words and thus communicate with another. Therefore speech and language are reflections of autonomous thinking and intentional behaviour. Elephants also use their vocalisations to share knowledge and information with others, apparently intentionally (Poole

2011). Male elephants primarily communicate about their sexual status, rank and identity, whereas females and dependents call to emphasise and reinforce their social units. Call types can generally be separated into laryngeal calls (such as rumbles) or trunk calls (such as trumpets), with different calls in each category being used in different contexts (Poole 2011; Poole and Granli 2004; Soltis et al 2005; Wood et al 2005). Field experiments have shown that African elephants distinguish between different call types (for example, contact calls – rumbles that travel long distances to maintain associations between elephants that could be several kilometres apart, or oestrus rumbles – that occur after a female has copulated) and these different call types elicit different responses in the listeners. Elephant vocalisations are not simply reflexive, they have distinct meanings to listeners and they are truly communicative, similar to the volitional use of language in humans (Leighty et al 2008; Poole 1999; Poole 2011).

39. Furthermore, elephants have been shown to vocally imitate the sounds they hear around them, from the engines of passing trucks to the commands of human zookeepers (Poole et al 2005, Stoeger et al 2012). Imitating another's behaviour is demonstrative of a sense of self, as it is necessary to understand how one's own behaviour relates to the behaviour of others.

40. Elephants display a wide variety of gestures, signals and postures, used to communicate information to the audience (Poole and Granli gestures chapter 2011). Such signals are adopted in many different contexts, such as aggressive, sexual or socially integrative situations, and each signal is well defined and results in predictable responses from the audience. That is, each signal or gesture has a specific meaning both to the actor and recipient. Elephants' use of gestures demonstrates that they communicate intentionally and purposefully to share information with others and/or alter the others' behaviour to fit their own will.

41. Experimental evidence demonstrates that African elephants recognize the importance of visual attentiveness of the intended recipient (in this case, human experimenters) of gestural communication (Smet & Byrne 2014), further supporting the suggestion that elephants' gestural communication is intentional and purposeful. Furthermore, the ability to understand the visual attentiveness and perspective of others is crucial for empathy and mental-state understanding.

Memory And Categorisation

42. Elephants have both extensive and long-lasting memories, just as the folk stories and adages encourage us to believe. McComb et al. (2000), using experimental playback of long-distance contact calls in Amboseli National Park, Kenya, showed that African elephants remember and recognize the voices of at least 100 other elephants. Each adult female elephant tested was familiar with the contact-call vocalizations of individuals from an average of 14 families in the population. When the calls were from a familiar family— that is, one that had previously been shown to have a high association index with the test group—the test elephants contact-called in response and approached the location of the loudspeaker. When a test group heard unfamiliar contact calls (from groups with a low association index with the test group), they bunched together and retreated from the area.

43. McComb et al (2001) went on to show that this social knowledge accrues with age, with older females having the best knowledge of the contact calls of other family groups. McComb et al (2011) also showed that older females are better leaders, with more appropriate decision-making in response to potential threats (in this case, in the form of hearing lion roars). Younger matriarchs under-reacted to hearing roars from male lions, potential predators of elephant calves. Sensitivity to hearing this sound increased with increasing matriarch age, with the oldest, most experienced females showing the strongest response to this danger. These experimental studies show that elephants continue to learn and remember information about their environments throughout their lives, and this accrual of knowledge allows them to make better decisions and better lead their families as they grow older.

44. Further demonstration of elephants' long-term memory comes from data on their movement patterns. African elephants are known to move over very large distances in their search for food and water. Leggett (2006) used GPS collars to track the movements of elephants living in the Namib Desert. He recorded one group traveling over 600 km in five months, and Viljoen (1989) showed that elephants in the same region visited water holes approximately every four days, even though some of them were more than 60km apart. Elephants inhabiting the deserts of both Namibia and Mali have been described traveling hundreds of kilometers to

arrive at remote water sources shortly after the onset of a period of rainfall (Blake et al. 2003; Viljoen 1989), sometimes along routes that researchers believe have not been used for many years. These remarkable feats suggest exceptional cognitive mapping skills, reliant on the long-term memories of older individuals who traveled that path sometimes decades earlier. Indeed it has been confirmed that family groups with older matriarchs are better able to survive periods of drought. The older matriarchs lead their families over larger areas during droughts than those with younger matriarchs, again apparently drawing on their accrued knowledge (this time about the locations of permanent, drought-resistant sources of food and water) to better lead and protect their families (Foley, Pettorelli, and Foley 2008).

45. It has recently been shown that long-term memories, and the decision-making mechanisms that rely on this knowledge, are severely disrupted in elephants who have experienced trauma or extreme disruption due to 'management' practices initiated by humans. Shannon et al (2013) demonstrated that elephants in South Africa who had experienced trauma decades earlier showed significantly reduced social knowledge. During archaic culling practices, these elephants were forcibly separated from family members and subsequently translocation to new locations. Two decades later, they still showed impoverished social knowledge and skills and impaired decision-making abilities, compared with an undisturbed population in Kenya. Disrupting elephants' natural way of life can negatively impact their knowledge and decision-making abilities.

46. Elephants demonstrate advanced 'working memory' skills. Working memory is the ability to temporarily store, recall, manipulate and coordinate items from memory. Working memory directs attention to relevant information, and results in reasoning, planning, and coordination and execution of cognitive processes through use of a 'central executive' (Baddeley 2000). Adult human working memory is generally thought to have a capacity of around seven items. In other words, we can keep about seven different items or pieces of information in mind at the same time (Miller 1956). We conducted experiments with wild elephants in Amboseli National Park, Kenya, manipulating the location of fresh urine samples from related or unrelated elephants. The elephants' responses to detecting urine from known individuals in surprising locations showed that they are able to continually track the locations

of at least 17 family members in relation to themselves, as either absent, present in front of self, or present behind self (Bates et al. 2008a). This remarkable ability to hold in mind and regularly update information about the locations and movements of a large number of family members is best explained by predicting that elephants possess an unusually large working memory capacity, apparently much larger than that of humans.

47. Elephants show sophisticated categorisation of their environment, with skills on a par with those of humans. We experimentally presented the elephants of Amboseli National Park, Kenya, with garments that gave olfactory or visual information about their human wearers - either Maasai moran (male warriors who traditionally attack and spear elephants on occasion as part of their rite of passage), or Kamba men (who are agriculturalists and traditionally pose little threat to elephants). In the first experiment, the only thing that differed between the cloths was the smell, derived from the ethnicity and/or lifestyle of the wearers. The elephants were significantly more likely to run away when they sniffed cloths worn by Maasai than those worn by Kamba men or no one at all. In a second experiment, we presented the elephants with two cloths that had not been worn by anyone, but here one was white (a neutral stimulus) and the other was red—the color that is ritually worn by Maasai moran. With access only to these visual cues, the elephants showed significantly greater reaction to red garments than white, often including signs of aggression. We concluded that elephants are able to categorize a single species (humans) into sub-classes (i.e. 'dangerous' or 'low risk') based on either olfactory or visual cues alone (Bates et al. 2007). McComb et al went on to show that the same elephants can also distinguish between human groups based on our voices. The elephants reacted differently (and appropriately) depending on whether they heard Maasai or Kamba men speaking, and also when they heard male or female Maasai (where female Maasai pose no threat as they are not involved in spearing events), and adult Maasai men or young Maasai boys (McComb et al 2014). Scent, sounds and visual signs associated specifically with Maasai men are categorized as 'dangerous', while neutral signals are attended to but categorized as 'low risk'. These sophisticated, multi-modal categorization skills may be exceptional among non-human animals.

Summary

48. Both African and Asian elephants evidently share many key traits of autonomy with humans, and so parsimoniously it must be concluded that elephants are also autonomous beings.

49. Scientific knowledge about elephant intelligence has been increasing rapidly in the past decade: what we currently know is only a tiny fraction of what elephant brains are likely capable of, and yet more amazing abilities are still likely to be discovered.

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Summary

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49. Scientific knowledge about elephant intelligence has been increasing rapidly in the past decade: what we currently know is only a tiny fraction of what elephant brains are likely capable of, and yet more amazing abilities are still likely to be discovered.

I, Cynthia J. Moss, Ph.D., certify under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

10/13/20 Cynthia J. Moss

Date Cynthia J. Moss, Ph.D.

Exhibit 2

COUNTRY OF UNITED KINGDOM)
)
PROVINCE OF EAST SUSSEX) ss:
)
MUNICIPALITY OF BRIGHTON)

Affidavit of Karen McComb

Karen McComb being duly sworn, deposes and says:

Introduction and Qualifications

1. My name is Karen McComb. I was awarded my Bachelors of Science with 1st Class Honours in Zoology from the University of Edinburgh in 1984. I earned my PhD from the University of Cambridge from 1984-1988, under the supervision of Professor T.H. Clutton-Brock, for a thesis entitled "Roaring and reproduction in red deer (Cervus elaphus)". I completed a Postdoctoral Research Fellowship from 1989-1990 at the University of Minnesota, and then was a Research Fellow at Newnham College, at the University of Cambridge, from 1990-1993. I have worked at the University of Sussex since 1993, where I have been a Lecturer/Senior Lecturer from 1993-2004, a Reader from 2004-2013, and a Professor (of Animal Behaviour and Cognition) since 2013. I work in the School of Psychology at University of Sussex in Brighton, United Kingdom and reside in East Sussex.

2. I submit this affidavit in support of The Nonhuman Rights Project, Inc. (NhRP) for a writ of habeas corpus on behalf of the captive elephant listed above. I am a nonparty to this proceeding.

3. My current research is directed towards the investigation of emotional awareness as a basis for social success in the domestic horse. Although the essential role that emotional intelligence plays in human social behaviour is well recognized, we collectively still know very little of how individual variation in the ability to identify and respond appropriately to emotional signals influences social integration and success in animal groups. My research team is designing a broad array of naturalistic tests to quantitatively assess individual differences in emotional abilities, which we will examine in relation to measures of social success. In addition to the scientific significance of my research, there are considerable implications for animal welfare, and my group's findings will allow us to more accurately understand the emotional capacities and requirements of individual horses within the domestic environment.

4. My research career has centered on using naturalistic experiments to probe and understand vocal communication and cognitive abilities in a wide range of mammals, including African elephants, horses, lions, red deer, and domestic cats and dogs. Through the design and implementation of novel experiments which provide a window into abilities that animals use to make every-day decisions in their native environments, I have made breakthroughs that have significantly advanced our fundamental understanding of animal minds and social behaviour. My research has contributed significantly towards advances in: (1) Understanding social cognition and conceptual knowledge. My work focusing on social cognition in domestic horses has led to fundamental insights about how individuals within a group recognize each other, and my research team provided the first systematic demonstration of cross-modal individual recognition of conspecifics in a nonhuman. This finding demonstrates how multi-sensory representations can underlie animals' knowledge of each other, and fundamentally advances our understanding of how conceptual knowledge may have arisen evolutionarily; (2) Understanding social intelligence in wild mammals. My original work evaluating social cognition in African lions laid the groundwork for understanding how the potential costs of fighting with larger groups over limited resources may have provided a selective evolutionary pressure for numerical assessment skills in social species. This potential biological basis for the evolution of mathematical abilities has led broadly to new research on other species based largely on my experimental paradigm. In my research with African elephants, I have demonstrated that the collective experiences and knowledge found in the oldest members of a group can influence the social knowledge of the group as a whole, which has provided fundamental insights into how cognitively advanced social mammals acquire and store information in the wild. Subsequent work provided the first empirical evidence that groups benefit from older leaders specifically due to the group's collectively enhanced ability to respond to predators based on the knowledge of the oldest individual, allowing for the development of intriguing hypotheses for the evolutionary benefits of longevity. More recent work demonstrated for the first time that elephants' knowledge of human predators is much more sophisticated than previously recognized, by showing that elephants can determine ethnicity, gender, and age of humans from acoustic cues in human voices; and (3) Understanding sexual signals and the origins of language. My original research on the function of roaring in red deer provided the foundation for a novel, systematic experimental approach to

studying the role of vocal signaling in sexual selection in mammals. In a series of influential papers, my research group showed that formants, key parameters in human speech, play a critical role in the communication of non-human mammals. In addition, I have used a comparative approach to demonstrate that increases in non-human primate group size and extent of social bonding are related to the development of larger vocal repertoires, providing new information for the scientific investigation of language evolution.

5. In addition to the scientific implications of my research, it has also had impacts for animal conservation and welfare. Specifically, by demonstrating the crucial role that the oldest individuals play in elephant social groups, we have shown how entire populations of cognitively advanced social mammals can be severely disrupted by the removal of even a few critical individuals. Our recent work has also shown that the effects of social disruption can have severe, long-term effects on the cognitive abilities of elephants. This research has significant implications for the conservation and welfare of both wild and captive animals, not just elephants but also other long-lived, large-brained social mammals such as whales and dolphins. Due to this work, I was invited to contribute to the recommendations of the recent Convention on the Conservation of Migratory Species of Wild Animals (CMS).

6. Along with my colleague David Reby, I developed a very successful research group in Mammal Vocal Communication and Cognition (http://www.lifesci.sussex.ac.uk/cmvcr/Home.html) at the University of Sussex. This research group has attracted and supported many talented postgraduates and independent research fellows. Currently, I have 3 PhD students and a postdoc, working with me on projects ranging from emotional awareness in domestic animals to investigating cultural differences between elephant populations.

7. I have been awarded significant extramural grants to fund my research throughout my career from a number of foundations and organizations, including: (1) Levehulme Trust Research Grants, in both 2009 and 2014; (2) a National Geographic grant in 2006; (3) a Waltham Foundation grant in 2002; (4) an EU Marie Curie grant in 2000; (5) a BBSRC research grant in 1996; (6) Tusk Trust grants, in 1994, 1995, and 1996; (7) a Nuffield Foundation grant in 1994; (8) a Royal Society Research grant in 1994; (9) and an NERC small project grant in 1993. Additionally, I have received a number of Royal Society Conference grants throughout my career, most recently in 2005 and 2009.

8. Over the course of my career, I have received several awards and honors related to my research, including; (1) the 2008 PNAS Cozzarelli Prize for outstanding originality and scientific excellence for the article "Cross-modal individual recognition in domestic horses (Equus caballus)" with L. Proops and D. Reby; (2) the prize for best talk by a research student at the Association for the Study of Animal Behaviour Spring Conference in 1987 during my PhD at Cambridge; (3) The University of Edinburgh Class Medal & Ashworth Prize in Zoology in 1984; (4) the Class Medal and William Turner Award in Zoology in 1983; (5) the Moira Lyndsay Stewart Award in Zoology in 1982; and (6) the Jack Roberts Memorial Prize in Botany in 1982.

9. I have served with a number of professional organizations throughout my career, including: (1) as an appointed Reviewer for European Research Council grants in 2012; (2) as an academic Editor for *PLoS One* since 2007; (3) as part of the Editorial Board for *Bioacoustics* since 1997; (4) as a consulting Editor for *Animal Behaviour* from 1996-1998; (5) as a Council Member for the Association for the Study of Animal Behaviour (ASAB) from 1993-1997; (6) as a liaison representative for the ASAB with the Institute of Biology from 1995-1997; and (7) as a manuscript reviewer for a number of premier scientific publications, including *Science, Nature, Current Biology, Proceedings of the Royal Society B, Proceedings for the National Academy of Sciences, PLoS One,* and *Animal Behaviour*, as well as other journals.

10. I have organized a number of conferences during my career, including: (1) a symposium on "Mammal Vocal Communication: Insights into cognitive abilities and the origins of language" at the International Ethological Congress in Budapest, in August 2005 (with David Reby); and (2) the 1999 Association for the Study of Animal Behaviour Conference on "Evolution of Mind" in London, attended by more than 200 people.

11. I have given numerous professional academic lectures throughout my career. Some of these include: (1) an invited lecture to the Cetacean Culture Workshop in 2014, organized jointly by the Convention on the Conservation of Migratory Species of Wild Animals (CMS) and Whale and Dolphin Conservation (WDC); (2) a Plenary talk at the 2012 Association for the Study of Animal Behaviour meeting on "Cognition in the Wild"; (3) an invited lecture at the 2011 international workshop on communication and social cognition at the Institute of Evolutionary Biology and Environmental Studies at the University of Zurich; (4) an invited lecture at the 2010 International workshop on

referential communication at the Wissenschaftskolleg zu Berlin, Institute for Advanced Study in Berlin; (5) a Plenary lecture at the 2010 Nordic meeting of the International Society for Applied Ethology, in Kuopia, Finland; (6) an invited lecture at the 2009 International Ethological Congress in Rennes, France; (7) an invited lecture in 2009 at the Ecology and Evolutionary Biology Department at the University of Princeton; (8) an invited lecture at the Novartis day at the 2006 Royal Society Discussion meeting on Social Intelligence, in London; (9) an invited lecture (and conference organizer) at the 2005 International Ethological Congress Symposium on "Mammal Vocal Communication: insights into cognitive abilities and the origin of language" in Budapest; (10) a Keynote lecture at the 2003 British Association for the Advancement of Science Symposium on "Where do numbers come from?" at Salford, England; (11) a Plenary lecture at the 2002 Association for the Study of Animal Behaviour conference on "Information Gathering"; (12) an invited lecture at the 2001 symposium on Alternative Approaches to Studying Social Cognition at the International Ethological Congress in Tubingen, Germany; (13) an invited lecture at a 2000 International workshop on animal signaling, Talkbank, at the University of Philadelphia; and (14) a Plenary lecture at the 1999 Association for the Study of Animal Behaviour Conference on "Communication and Social Behaviour" in Lisbon.

12. In addition to academic lectures, I have given a number of public lectures over the course of my career, including: (1) as an invited panel member/speaker at the 2014 Festival of Sound, organized by Magdalene College at the University of Cambridge; (2) as an invited member/speaker at the 2012 Gulbenkian Foundation Supersonix Festival, organized on behalf of the Exhibition Road Cultural Group to focus on the art and science of sound and music-making; (3) a public lecture on "Animal Communication" in the "Learning about Animals" series in London in 2007; (4) a lecture to the 2006 Pet Care Trust Conference in Edinburgh; (5) a Press conference for the launch of my *Science* paper, organized by the American Academy for the Advancement of Science, at the London Zoo in 2001; (6) a lecture at the British Library National Sound Archive in 2000; and (7) a joint lecture with Cynthia Moss at a Royal Geographical Society lecture, attended by more than 600 members of the public, in 1996.

13. I have published over 50 peer-reviewed scientific articles over my career. These articles have been published in many of the world's premier scientific journals,

including: *Nature, Science, PNAS, Frontiers in Zoology*, *Animal Behaviour, Current Biology, Biology Letters, PLoS ONE, Proceedings of the Royal Society B, Ethology, Animal Cognition, Journal of the Acoustical Society of America, Journal of Comparative Psychology, Advances in the Study of Behaviour, American Journal of Primatology, Behavioural Ecology,* and *Trends in Ecology & Evolution*. Six of these publications have been featured as cover articles in the journals *Science, Nature, PNAS, Proceedings of the Royal Society B,* and *Biology Letters.* Specific topics of these publications have included: Animals remember previous facial expressions that specific humans have exhibited; Elephants can determine ethnicity, gender, and age from acoustic cues in human voices; The Equine Facial Action Coding System; The eyes and ears are visual indicators of attention in domestic horses; Cross-modal discrimination of human gender by domestic dogs; Effects of social disruption in elephants persist decades after culling; The responses of young domestic horses (Equus caballus) to human-given cues; Leadership in elephants: the adaptive value of age; African wild dogs as a fugitive species: playback experiments investigate how wild dogs respond to their major competitors; Cross-modal perception of body size in domestic dogs; the use of human-given cues by domestic horses; Acoustic bases of motivational misattributions; Oestrus red deer hinds prefer male roars with higher fundamental frequencies; Size communication in domestic dog (Canis familiaris) growls; Manipulation by domestic cats: the cry embedded within the purr; Context-related variation in the vocal growling behaviour of the domestic dog; Cross-modal individual recognition in domestic horses; Human listeners attend to size information in domestic dog growls; Experimental investigation of referential looking in free-ranging barbary macaques; Female perception of size-related formant shifts in red deer (Cervus elaphus); African elephants show high levels of interest in the skulls and ivory of their own species; Co-evolution of vocal communication and sociality in primates; Long-distance communication of cues to social identity in African elephants; Vocal communication and reproduction in deer; Information content of female copulation calls in yellow baboons; Matriarchs act as repositories of social knowledge in African elephants; Elephant hunting and conservation; Roaring and social communication in African lions; Unusually extensive networks of vocal recognition in African elephants; Perception of female reproductive state from vocal cues; Female grouping as a defense against infanticide by males; Behavioural deception; Roaring and numerical assessment in contests between groups of female lions; Female lions can identify potentially infanticidal males from their roars; Roaring and oestrus; Roaring by red deer stags advances date of oestrus in hinds; and Are talkers the only thinkers?.

14. My scientific work has also been published as chapters in several books and edited volumes, including (1) *The Social Dog* (2014, editors J. Kaminski and S. Marshall-Pescini, Elsevier); (2) *The Amboseli Elephants: A Long-Term Perspective on a Long-Lived Mammal* (2011, University of Chicago Press); (3) *New Encyclopedia of Neuroscience* (2008, editor L.R. Squire, Academic Press); (4) *The Barbary macaque: biology, management, and conservation* (2006, editors J.K. Hodges and J. Cortes, Nottingham University Press); (5) *Animal Communication Networks* (2005, editor P.K. McGregor, Cambridge University Press); (6) *Studying Elephants* (1996, African Wildlife Foundation Technical Handbook series); and (7) *Playback and Studies of Animal Communication* (1992, editor P.K. McGregor, Plenum Publishing Corporation).

15. My work has garnered significant media coverage over the course of career. I have made appearances on British, American, Australian, Canadian, and German TV and radio stations (including BBC TV news, Discovery Channel, Radio 4 Today programme, and BBC Science in Action) and my work has been featured in articles in major British, European, and American newspapers (including The Guardian, Times, Liberation, National Geographic magazine, and New Scientist).

16. In April 2001, *Science* organized a press conference in London for the launch of my paper, which was featured as their cover story. Later cover stories in *Biology Letters* (2006), *PNAS* (2009), and *Proceedings of the Royal Society B* (2011) also generated significant media attention, as did my *Current Biology* paper in 2009 which featured as the most popular story on the BBC website, as well as the top Science and Entertainment story.

17. Several of my recent papers, including *Current Biology* (2018), *PNAS* (2014) and *Frontiers in Zoology* (2013) received unusually extensive world-wide media coverage. This included interviews on the Radio 4 Today Programme, ITV News at Ten, BBC World TV News, Newsround, BBC World Service, and Science in Action, as well as coverage in BBC Breakfast, BBC Radio 2, 3, and 4 news reports, Time magazine, The Economist, *Nature*, *Science*, National Geographic, and by more than 200 other news outlets in the UK and around the world.

18. My elephant research was covered in BBC's "Inside the Animal Mind" in February 2014, and my horse research was filmed for the BBC series "Talk to the Animals" which aired in July 2014. Both programmes were shown in prime-time slots and were very well received by the public. My recent research on emotional awareness in horses also featured in the award-winning CBC documentary "Equus: story of the horse".

19. I have done regular consultancies for the BBC and other companies making wildlife documentaries on animal communication. Most recently, I was a scientific consultant for the popular two-part BBC documentary "Talk to the Animals" (2014). I have also provided sound recordings for wildlife documentaries by the BBC and Windfall films, and have a sound recording credit (with Martyn Colbeck) on the BBC's "Echo of the elephants: the next generation" (1995).

20. My work has been featured in a number of textbooks and popular books, including: (1) John Alcock's and Lee Dugatkin's major textbooks on Animal Behaviour; (2) new edition of the Krebs & Davies *An Introduction to Behavioural Ecology*; (3) new edition of Bradbuy and Vehrencamp's *Principles of Animal Communication*; (4) new edition of Shettleworth's *Cognition, Evolution, and Behavior*; (5) Brian Butterworth's *The Mathematical Brain*; (6) Tim Clutton-Brock's *Mammal Societies*; and (7) as a chapter in the best-selling *Animal Wise* by Virginia Morell.

21. I provided photographic material to The Field Museum, in Chicago, for an exhibition on Mammoths and Mastodons, Titans of the Ice Age. This exhibit has been touring internationally.

22. My Curriculum Vitae fully sets forth my educational background and experience and is annexed hereto as "Exhibit A".

Basis for opinions

23. The opinions I state in this Affidavit are based on my professional knowledge, education, training, and years of experience observing and studying elephants and other social mammals, as well as my knowledge of peer-reviewed literature about elephant behaviour and intelligence published in the world's most respected journals, periodicals and books that are generally accepted as authoritative in the field, and many of which were written by myself or colleagues whom I have known for several years and with whose research and field work I am personally familiar. A full reference list of peer-reviewed literature cited herein is annexed hereto as "Exhibit B".

Opinions

Premise

24. Autonomy in humans is defined as self-determined behaviour that is based on freedom of choice. As a psychological concept it implies that the individual is directing their behaviour based on some non-observable, internal cognitive process, rather than simply responding reflexively. Although we cannot directly observe these internal processes in other people, we can explore and investigate them by observing, recording and analysing behaviour. For non-human animals, observing similar behaviour and recording evidence of shared cognitive capacities should, parsimoniously, lead to similar conclusions about autonomy.

25. I shall indicate which species, African (*Loxodonta Africana*) or Asian (*Elephus maximus*), specific observations relate to. If the general term "elephants" is used with no specific delineation, it can be assumed the comment relates to both species.

Brain And Development

26. Elephants are large-brained, with the biggest absolute brain size of any land animal (Cozzi et al 2001; Shoshani et al 2006). Even relative to their body sizes, elephant brains are large. Encephalization quotients (EQ) are a standardised measure of brain size relative to body size, and illustrate by how much a species' brain size deviates from that expected for its body size. An EQ of one means the brain is exactly the size expected for that body, and values greater than one indicate a larger brain than expected (Jerison 1973). Elephants have an EQ of between 1.3 and 2.3 (varying between sex and African and Asian species). This means an elephant's brain can be up to two and a half times larger than is expected for an animal of its size; this EQ is similar to that of the great apes, with whom elephants have not shared a common ancestor for almost 100 million years (Eisenberg 1981, Jerison 1973). Given how metabolically costly brain tissue is, the large brains of elephants would be expected to confer significant advantages; otherwise their size would be reduced. Presumably this advantage is allowing greater cognitive capacities and behavioural flexibility (Bates et al 2008).

27. Generally, mammals are born with brains weighing up to 90% of the adult weight. This figure drops to about 50% for chimpanzees. Human baby brains weigh only about 27% of the adult brain weight (Dekaban & Sadowsky 1978). This long period of brain development over many years (termed 'developmental delay') is a key feature of human

brain evolution and is thought to play a role in the emergence of our complex cognitive abilities, such as self-awareness, creativity, forward planning, decision making and social interaction (Bjorkland 1997). Delayed development provides a longer period in which the brain may be shaped by experience and learning (Furster 1992). Elephant brains at birth weigh only about 35% of their adult weight (Eltringham 1982), and elephants show a similarly protracted period of growth, development and learning (Lee 1986). This similar developmental delay in the elephant brain is therefore likely associated with the emergence of similarly complex cognitive abilities.

28. Despite nearly 100 million years of separate evolution (Hedges 2001), elephants share certain characteristics of our large brains, namely deep and complex folding of the cerebral cortex, large parietal and temporal lobes, and a large cerebellum (Cozzi et al 2001). The temporal and parietal lobes of the cerebral cortex manage communication, perception, and recognition and comprehension of physical actions, while the cerebellum is involved in planning, empathy, and predicting and understanding the actions of others (Barton 2012). Thus, the physical similarities between human and elephant brains occur in areas that are relevant to capacities necessary for autonomy and self-awareness.

29. Elephant brains hold three times more neurons than do human brains, with 97% of their found neurons in the cerebellum and 5.6 billion neurons in the cerebral cortex (Herculano-Houzel et al 2014); This figure for cortical neurons is lower than previous estimates, which suggested 11 billion cortical neurons for elephants and 11.5 billion for humans (Roth & Dicke 2005).

30. Elephant pyramidal neurons have a large dendritic tree, i.e. a large number of connections with other neurons for receiving and sending signals (Cozzi et al 2001; Jacobs et al 2011; Maseko et al 2012). The degree of complexity of pyramidal neurons is linked to cognitive ability, with more (and more complex) connections between pyramidal neurons being associated with increased cognitive capabilities (Elston 2003).

31. As described below, research demonstrates that along with these common brain and life-history characteristics, there is evidence that elephants may share many behavioural and intellectual capacities with humans, including: self-awareness, empathy, awareness of death, intentional communication, learning, memory, and categorisation abilities.

Many of these capacities have previously been considered – erroneously – to be uniquely human, and each is fundamental to and characteristic of autonomy and self-determination.

Awareness Of Self And Others

32. An Asian elephant has been show to exhibit Mirror Self Recognition (MSR) using Gallup's classic 'mark test' (Gallup 1970; Plotnik et al 2006). MSR is the ability to recognise a reflection in the mirror as oneself, and the mark test involves surreptitiously placing a coloured mark on an individual's forehead that it could not see or be aware of without the aid of a mirror. If the individual uses the mirror to investigate the mark, it is logical to assume that the individual recognises the reflection as itself. (See "Video 1", attached on CD as "Exhibit C"). Almost all animal species tested on this task fail: they do not recognise the image in the mirror as being a reflection of themselves. Indeed, the only other mammals beyond humans who have successfully passed the mark test and exhibit MSR are the great apes (chimpanzees, bonobos, gorillas, and orangutans) and bottlenose dolphins (Parker and Mitchell 1994, Reiss and Marino 2001). MSR is significant because it is considered by many to be a key identifier of self-awareness. Self-awareness is intimately related to autobiographical memory in humans (Prebble et al 2011), and is central to autonomy and being able to direct one's own behaviour to achieve personal goals and desires. By demonstrating that they can recognize themselves in a mirror, elephants appear to be holding a mental representation of themselves from another perspective, and thus be aware that they are a separate entity from others (Bates and Byrne 2014).

33. Related to possessing a sense of self is an understanding of death. Observing reactions to dead family or group members suggests such an awareness of death in only two animal genera beyond humans; chimpanzees and elephants (Anderson et al 2010, Douglas-Hamilton et al 2006). Having a mental representation of the self – a pre-requisite for mirror-self recognition – probably also confers an ability to comprehend aspects of death. Wild African elephants have been shown experimentally to be more interested in the bones of dead elephants than the bones of other animals (McComb et al 2006) (See "Video 2", attached on CD as "Exhibit D"), and they have frequently been observed using their tusks, trunk or feet to attempt to lift sick, dying or dead individuals (Poole & Granli, 2011). Although they do not give up trying to lift or elicit

movement from the body immediately, elephants appear to realise that once dead, the carcass cannot be helped anymore, and instead they engage in apparently "grief-stricken" behaviour, such as standing guard over the body, and protecting it from the approaches of predators (Poole & Granli, 2011). They also have been observed to cover the bodies of dead elephants with dirt and vegetation (Moss 1992; Poole 1996). In the particular case of mothers who lose a calf, although they may remain with the calf's body for an extended period, they do not behave towards the body as they would a live calf. Indeed, the general demeanour of elephants who are attending to a dead elephant is one of grief, with slow movements and few vocalisations (Poole, pers. comm.). These behaviours are akin to human responses to the death of a close relative or friend, and illustrate that elephants appear to possess some understanding of life and the permanence of death (See "Photographs", attached on CD as "Exhibit E").

34. The capacity for mentally representing the self as an individual entity has been linked to general empathic abilities (Gallup 1982), where empathy can be defined as identifying with and understanding another's experiences or feelings by relating personally to their situation. Empathy is an important component of human consciousness and autonomy, and is a cornerstone of normal social interaction. It goes beyond merely reading the emotional expressions of others. It requires modelling of the emotional states and desired goals that influence others' behaviour both in the past and future, and using this information to plan one's own actions; cognitive empathy is possible if one can adopt another's perspective, and attribute emotions to that other individual (Bates et al 2008). Empathy is, therefore, a component of and reliant on 'Theory of Mind' - the ability to mentally represent and think about the knowledge, beliefs and emotional states of others, whilst recognising that these can be distinct from your own knowledge, beliefs and emotions (Premack and Woodruff// Frith and Frith 2005).

35. Elephants clearly and frequently display empathy in the form of protection, comfort, and consolation, as well as by actively helping those who are in difficulty, such as assisting injured individuals to stand and walk, or helping calves out of rivers or ditches with steep banks (Bates et al 2008, Lee 1987) (See "Video 3", attached on CD as "Exhibit F"). Elephants have even been observed feeding those who are not able to use their own trunks to eat (see Poole and Granli, 2011).

36. In an analysis of behavioural data collected from wild African elephants over a 40-year continuous field study, Bates and colleagues concluded that as well as possessing their own intentions, elephants can diagnose animacy and goal directedness in others, understand the physical competence and emotional state of others, and attribute goals and mental states (intentions) to others (Bates et al 2008), as evidenced in the examples below:

> *'IB family is crossing river. Infant struggles to climb out of bank after its mother. An adult female [not the mother] is standing next to calf and moves closer as the infant struggles. Female does not push calf out with its trunk, but digs her tusks into the mud behind the calf's front right leg which acts to provide some anchorage for the calf, who then scrambles up and out and rejoins mother.'* (See "Video 4", attached on CD as "Exhibit G")
>
> *'At 11.10ish Ella gives a 'lets go' rumble as she moves further down the swamp . . . At 11.19 Ella goes into the swamp. The entire group is in the swamp except Elspeth and her calf [<1 year] and Eudora [Elspeth's mother]. At 11.25 Eudora appears to 'lead' Elspeth and the calf to a good place to enter the swamp — the only place where there is no mud.'*

Examples such as these demonstrate that the acting elephant (the adult female in the first example, and Eudora in the second) was able to understand the intentions of the other (the calf in the first case, and Elspeth in the second) – i.e. to either climb out of or into the water – and they could adjust their own behaviour in order to counteract the problem being faced by the other. Whilst humans may act in this helpful manner on a daily basis, such interactions have been recorded for very few non-human animals (Bates et al 2008).

37. Experimental evidence from captive African elephants further demonstrates that elephants have the potential to attribute intentions to others, as they follow and understand human pointing gestures. The elephants understood that the human experimenter was pointing in order to communicate information to them about the location of a hidden object (Smet and Byrne 2013) (See "Video 5", attached on CD as "Exhibit H"). Attributing intentions and understanding another's reference point is central to empathy and theory of mind.

38. Evidence of 'natural pedagogy' is rare among non-human animals, with only a few

potential examples of true teaching (whereby the teacher takes into account the knowledge states of the learner as they pass on relevant information) recorded anecdotally in chimpanzees (Boesch 1991) and killer whales (Guinet and Bouvier 1995)[1]. Teaching is therefore still widely considered to be unique to humans (Csibra and Gergely 2009). Bates & Byrne's analysis of simulated oestrus behaviours in African elephants – whereby a non-cycling, sexually experienced older female will simulate the visual signals of being sexually receptive, even though she is not ready to mate or breed again – shows that these knowledgeable females can adopt false oestrus behaviours in order to demonstrate to naïve young females how to attract and respond appropriately to suitable males. The experienced females may be taking the youngster's lack of knowledge into account and actively showing them what to do; a possible example of true teaching as it is defined in humans. Whilst this possibility requires further investigation, this evidence, coupled with the data showing that they understand the ostensive cues in human pointing, suggests that elephants do share some executive skills with humans, namely understanding the intentions and knowledge states (minds) of others.

39. Further related to empathy, the occurrence of coalitions and cooperation have been documented in wild African elephants, particularly to defend family members or close allies from (potential) attacks by outsiders, such as when a family group tries to 'kidnap' a calf from an unrelated family (Lee 1987, Moss and Poole 1983). These behaviours are based on one elephant understanding the emotions and goals of the coalition partner (Bates et al 2008).

40. Cooperation is also evident in experimental tests with captive Asian elephants, whereby elephants demonstrated they can work together in pairs to obtain a reward, and understood that it was pointless to attempt the task if their partner was not present or could not access the equipment (Plotnik et al. 2011) (See "Video 6", attached on CD as "Exhibit I"). Problem-solving and working together to achieve a collectively desired outcome involve mentally representing both a goal and the sequence of behaviours that is required to achieve that goal; it is based on (at the very least) short-term action planning.

[1] Functional teaching has been experimentally demonstrated in various animal species including ants, babblers, meerkats, cheetahs and some primates, but this is not the same as deliberate pedagogy, as it does not rely on representing the knowledge states of the learners.

41. Wild elephants have frequently been observed engaging in cooperative problem solving, for example when retrieving calves that have been kidnapped by other groups, or when helping calves out of steep, muddy river banks (Bates et al 2008, Moss, 2011) These behaviours demonstrate the purposeful and well-coordinated social system of elephants, and show that elephants can hold particular aims in mind and work together to achieve those goals. Such intentional, goal-directed action forms the foundation of independent agency, self-determination, and autonomy.

42. Elephants also show innovative problem solving in experimental tests of insight (Foerder et al 2011), where insight can be described as the 'a-ha' moment when a solution to a problem 'suddenly' becomes clear. (In cognitive psychology terms, insight is the ability to inspect and manipulate a mental representation of something, even when you can't physically perceive or touch the something at the time. Or more simply, insight is thinking and using only thoughts to solve problems (*see* Richard Byrne, *Evolving Insight*, Oxford Online Press, 2016[2]). A juvenile male Asian elephant demonstrated just such a spontaneous action by moving a plastic cube and standing on it to obtain previously out-of-reach food. After solving this problem once, he showed flexibility and generalization of the technique to other, similar problems by using the same cube in different situations, or different objects in place of the cube when it was not available. (See "Video 7", attached on CD as "Exhibit J"). This experiment again demonstrates that elephants can choose the appropriate action and incorporate it into a sequence of behaviour in order to achieve a goal, which they kept in mind throughout the process.

43. Further experiments also demonstrate Asian elephants' ability to understand goal-directed behaviour. When presented with food that was out of reach, but with some bits resting on a tray that could be pulled within reach, the elephants learned to pull only those trays that were baited with food (Irie-Sugimoto et al 2007). Success in this kind of 'means-end' task is a demonstration of causal knowledge, which requires understanding not just that two events are associated with each other but also that there is some mediating force that connects and affects the two which may be used to predict and control events. Moreover, understanding causation and inferring object relations may be related to understanding psychological causation, i.e., the appreciation that

[2] Available at https://global.oup.com/academic/product/evolving-insight-9780198757078?cc=us&lang=en&.

others are animate beings that generate their own behaviour and have mental states (e.g., intentions).

Communication and social learning

44. Speech is a voluntary behaviour in humans, whereby a person can choose whether to utter words and thus communicate with another. Therefore speech and language are reflections of autonomous thinking and intentional behaviour. Elephants also use their vocalisations to share knowledge and information with others, apparently intentionally (Poole 2011). Male elephants primarily communicate about their sexual status, rank and identity, whereas females and dependents call to co-ordinate and reinforce their social units. Call types can generally be separated into calls produced primarily by the larynx (such as rumbles) or trunk calls (such as trumpets), with different calls in each category being used in different contexts (Poole 2011; Poole and Granli 2004; Soltis et al 2005; Wood et al 2005). Field experiments have shown that African elephants distinguish between different call types (for example, contact calls – rumbles that travel long distances to maintain associations between elephants that could be several kilometres apart, or oestrus rumbles – that occur after a female has copulated) and these different call types elicit different responses in the listeners. Elephant vocalisations are not simply reflexive, they have distinct meanings to listeners and they are truly communicative, similar to the volitional use of language in humans (Leighty et al 2008; Poole 1999; Poole 2011).

45. Furthermore, elephants have been shown to vocally imitate the sounds they hear around them, from the engines of passing trucks to the commands of human zookeepers (Poole et al 2005, Stoeger et al 2012). Imitating another's behaviour is demonstrative of a sense of self, as it is necessary to understand how one's own behaviour relates to the behaviour of others.

46. Elephants display a wide variety of gestures, signals and postures, used to communicate information to the audience (Poole and Granli gestures chapter 2011). Such signals are adopted in many different contexts, such as aggressive, sexual or socially integrative situations, and each signal is well defined and results in predictable responses from the audience. That is, each signal or gesture has a specific meaning both to the actor and recipient. Elephants' use of gestures demonstrates that they

communicate intentionally and purposefully to share information with others and/or alter the others' behaviour to fit their own desires.

47. Experimental evidence demonstrates that African elephants recognize the importance of visual attentiveness of the intended recipient (in this case, human experimenters) of gestural communication (Smet & Byrne 2014), further supporting the suggestion that elephants' gestural communication is intentional and purposeful. Furthermore, the ability to understand the visual attentiveness and perspective of others is crucial for empathy and mental-state understanding.

Memory And Categorisation

48. Elephants have both extensive and long-lasting memories, just as the folk stories and adages encourage us to believe. McComb et al. (2000), using experimental playback of long-distance contact calls in Amboseli National Park, Kenya, showed that African elephants remember and differentiate the voices of at least 100 other elephants. Each adult female elephant tested was familiar with the contact-call vocalizations of individuals from an average of 14 families in the population. When the calls were from the test elephants' own family, they contact-called in response and approached the location of the loudspeaker and when they were from another non-related but familiar family — that is, one that had previously been shown to have a high association index with the test group — they listened but remained relaxed. However, when a test group heard unfamiliar contact calls (from groups with a low association index with the test group), they bunched together and retreated from the area.

49. McComb et al. (2001) went on to show that this social knowledge accumulates with age, with older females having the best knowledge of the contact calls of other family groups. McComb et al. (2011) also showed that older females are better leaders, with more appropriate decision-making in response to potential threats (in this case, in the form of hearing lion roars). Younger matriarchs were less skilled at pinpointing roars from male lions, the most dangerous predators because they can subdue a young elephant even when hunting alone. Sensitivity to picking out the roars of male lions increased with increasing matriarch age, with the oldest, most experienced females showing the strongest response to this danger. These experimental studies show that elephants continue to learn and remember information about their environments throughout their lives, and this accrual of knowledge allows them to make better

decisions and better lead their families as they grow older.

50. Further demonstration of elephants' long-term memory comes from data on their movement patterns. African elephants are known to move over very large distances in their search for food and water. Leggett (2006) used GPS collars to track the movements of elephants living in the Namib Desert. He recorded one group traveling over 600 km in five months, and Viljoen (1989) showed that elephants in the same region visited water holes approximately every four days, even though some of them were more than 60km apart. Elephants inhabiting the deserts of both Namibia and Mali have been described traveling hundreds of kilometers to arrive at remote water sources shortly after the onset of a period of rainfall (Blake et al. 2003; Viljoen 1989), sometimes along routes that researchers believe have not been used for many years. These remarkable feats suggest exceptional cognitive mapping skills, reliant on the long-term memories of older individuals who traveled that path sometimes decades earlier. Indeed it has been confirmed that family groups with older matriarchs are better able to survive periods of drought. The older matriarchs lead their families over larger areas during droughts than those with younger matriarchs, again apparently drawing on their accrued knowledge (this time about the locations of permanent, drought-resistant sources of food and water) to better lead and protect their families (Foley, Pettorelli, and Foley 2008).

51. Very importantly, it has recently been shown that long-term memories, and the decision-making mechanisms that rely on this knowledge, are severely disrupted in elephants who have experienced trauma or extreme disruption due to 'management' practices initiated by humans. Shannon et al (2013) demonstrated that elephants in South Africa who had experienced trauma decades earlier showed significantly reduced social knowledge. During archaic culling practices, these elephants were forcibly separated from family members and subsequently translocation to new locations (practices which have also accompanied taking elephants into captivity). Two decades later, they still showed impoverished social knowledge and skills and impaired decision-making abilities, compared with an undisturbed population in Kenya. Disrupting elephants' natural way of life can very negatively impact their knowledge and decision-making abilities.

52. Elephants demonstrate advanced "working memory" skills. Working memory is the ability to temporarily store, recall, manipulate and coordinate items from memory.

Working memory directs attention to relevant information, and results in reasoning, planning, and coordination and execution of cognitive processes through use of a "central executive" (Baddeley 2000). Adult human working memory is generally thought to have a capacity of around seven items. In other words, we can keep about seven different items or pieces of information in mind at the same time (Miller 1956). Bates and colleagues conducted experiments with wild elephants in Amboseli National Park, Kenya, manipulating the location of fresh urine samples from related or unrelated elephants. The elephants' responses to detecting urine from known individuals in surprising locations showed that they are able to continually track the locations of at least 17 family members in relation to themselves, as either absent, present in front of self, or present behind self (Bates et al. 2008a). This remarkable ability to hold in mind and regularly update information about the locations and movements of a large number of family members is best explained by predicting that elephants possess an unusually large working memory capacity, apparently much larger than that of humans.

53. Elephants show sophisticated categorisation of their environment, with skills on a par with those of humans. Bates and co-authors experimentally presented the elephants of Amboseli National Park, Kenya, with garments that gave olfactory or visual information about their human wearers — either Maasai moran (male warriors who traditionally attack and spear elephants on occasion as part of their rite of passage), or Kamba men (who are agriculturalists and traditionally pose little threat to elephants). In the first experiment, the only thing that differed between the cloths was the smell, derived from the ethnicity and/or lifestyle of the wearers. The elephants were significantly more likely to run away when they sniffed cloths worn by Maasai than those worn by Kamba men or no one at all (See "Video 8", attached on CD as "Exhibit K"). In a second experiment, the researchers presented the elephants with two cloths that had not been worn by anyone, but here one was white (a neutral stimulus) and the other was red — the color that is ritually worn by Maasai moran. With access only to these visual cues, the elephants showed significantly greater reaction to red garments than white, often including signs of aggression. Bates et al. concluded that elephants are able to categorize a single species (humans) into sub-classes (i.e. "dangerous" or "low risk") based on either olfactory or visual cues alone (Bates et al. 2007). McComb et al. went on to show that the same elephants can also distinguish between human groups based on just their voices. The elephants reacted differently (and appropriately)

depending on whether they heard Maasai or Kamba men speaking, and also whether they heard male or female Maasai (where female Maasai pose no threat as they are not involved in spearing events), and adult Maasai men or young Maasai boys (McComb et al. 2014). Scent, sounds, and visual signs associated specifically with Maasai men are categorized as “dangerous,” while neutral signals are attended to but categorized as “low risk.” These sophisticated, multi-modal categorization skills may be exceptional among non-human animals. The above experiments also demonstrate the acute sensitivity that elephants have to the human world, monitoring our behavior and learning to recognize situations where humans might cause them harm.

Summary

54. As will be evident from the above affidavit, both African and Asian elephants have been shown to demonstrate highly advanced cognitive abilities and levels of emotional awareness, sharing many key traits with humans. Based on the evidence presented, it seems clear that they should be treated as autonomous beings who direct their behaviour based on complex internal cognitive processes, rather than simply responding reflexively.

55. Scientific knowledge about elephant intelligence has been increasing rapidly in recent decades: what we currently know is only a tiny fraction of what elephant brains are likely to be capable of, with recent advances underlining just how sophisticated elephant behavior and cognition is likely to be.

I, Karen McComb, Ph.D., certify under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

27th October 2020

Date — Karen McComb, Ph.D.

Exhibit 3

Affidavit of Bob Jacobs

Bob Jacobs being duly sworn, deposes and says:

Introduction and Qualifications

1. My name is Bob Jacobs. I graduated with a Bachelor of Arts, *Magna Cum Laude*, in German from Whitman College in 1980. I received an M.A. in Germanics, with a minor in Teaching English as a Second Language, from the University of Washington in 1982. I received my Ph.D. from the University of California, Los Angeles (UCLA) in Applied Linguistics in 1991, completing a neuroanatomy dissertation under the supervision of Drs. Arnold B. Scheibel and John Schumann. The dissertation was entitled: "A Quantitative Dendritic Analysis of Wernicke's Area". During this time, I also worked with Dr. Marian Diamond of the University of California, Berkeley. Post-doctoral research in neuroimaging was also completed from 1991-1993 under the supervision of Dr. Harry Chugani at UCLA. I began my tenure track professorship in the Department of Psychology at Colorado College in 1993, started the school's Neuroscience major in 1996, and have been at Colorado College since that time, becoming a full professor in 2006. I reside in Colorado Springs, CO.
2. I submit this affidavit in support of Petitioner The Nonhuman Rights Project, Inc. (NhRP) in its habeas corpus case on behalf of the captive elephant named above. I have professional knowledge of the facts to which I attest and am not a party to this proceeding.
3. I have been conducting research on the mammalian brain since 1984 when I began my dissertation research in the Laboratory of Dr. Arnold B. Scheibel at the UCLA Brain Research Institute. I have 44 peer-reviewed publications to my name, all in well-respected scientific journals. I also have two chapters in edited volumes, and 63 professional talks/posters presented at academic conferences, and over 60 invited lectures about the brain. From 1984 to 2010, my main research focus was on the human cerebral cortex, specifically on the quantitative neuromorphology in the cerebral cortex, that is, the shape and size of nerve cells (neurons) in the outmost layers of the brain involved in higher cognitive functions—18 publications have focused on human tissue.

4. From 2010 onward, I focused on comparative neuroanatomy, examining the brains of a variety of species—for many of these species, our studies constitute the first time anyone had explored the neurons in the brains of these animals. Species examined included: African elephant, giraffe, minke whale, humpback whale, bottlenose dolphin, Siberian tiger, clouded leopard, Florida manatee, cheetah, African leopard, chimpanzee, African wild dog, domestic dog, banded mongoose, caracal, zebra, wildebeest, pygmy hippopotamus, greater kudu, ring-tailed lemur, golden lion tamarin, chacma baboon, macaque monkey, Flemish giant rabbit, Bennett's wallaby, and Long-Even's rat. A total of 18 publications have focused on these non-human animals.
5. With regard to the African elephant, we documented the types of neurons in both the cerebral cortex and in the cerebellum, a part of the brain involved in balance, body control, and coordination. This research was conducted on adult and newborn elephants—resulting in a total of 4 publications focused exclusively on the elephant brain, which had not been explored previously. In addition to academic publications, I have presented these results at several scientific conferences (e.g., Society for Neuroscience, Performing Animal Welfare Society), and have written summaries of this research for the online publication known as "The Conversation" (https://theconversation.com/what-elephants-unique-brain-structures-suggest-about-their-mental-abilities-100421; https://theconversation.com/the-neural-cruelty-of-captivity-keeping-large-mammals-in-zoos-and-aquariums-damages-their-brains-142240).
6. My Curriculum Vitae fully sets forth my educational background and experience and is attached as "Exhibit A."

Basis for opinions

7. My early interest in brain research involved using the research techniques of Dr. Scheibel to extend both his and Dr. Diamond's interest into the effects of the environment on the brain. Dr. Diamond was a pioneer in documenting the effects of an impoverished and enriched environment on neuroanatomy in non-human animals; my dissertation extended that to the human brain, where we found education-related differences in the neurons of the cerebral

cortex. Specifically, individuals with a university education had more complex neurons than individuals with a high school or less than high school education. I have followed this area of research my entire career, including when we examined the brains of both free and captive animals. As such, several decades of neuroscientific research has led me to several conclusions about the state of the brain in captive non-human animals, particularly with regard to long-lived, large-brained mammals such as cetaceans and elephants. A full reference list of peer-reviewed literature cited is attached as "Exhibit B."

8. One of the main findings of our elephant cortex paper (Jacobs et al., 2011) was that pyramidal neurons in the elephant are just as complex as similar neurons in the human cortex. Like the human, these neurons were also more complex in the frontal lobe, involved with higher cognitive function, than in the occipital lobe, involved in the early processing of incoming visual information. These are remarkable parallels in terms of overall complexity of neurons and the functional involvement of these neurons. One difference was noted between the cortical neurons in the African elephant and in humans—those in the African elephant appear to extend their branches more broadly than neurons in the human, which tended to be more compact. As such, elephant neurons sample a very wide array of information because of the length of their dendrites. In discussion with Dr. Joyce Poole, we concluded that this broad synthesis of information in the African elephant may contribute to their contemplative nature—elephants often appear to be examining their surroundings and thinking very deeply about what is going on around them. They have the leisure of their great size and few natural predators, which allows them to consider their decisions very carefully. Primate cortical neurons, by contrast, seem more designed for quick responses to the environment. This contemplative aspect of the elephant further supports the findings expressed below with regard to how their brains respond to captivity.

9. Although my own research has focused on the African elephant, the conclusions here all apply equally to Asian elephants as well. All evidence suggests the brain of an Asian elephant is

remarkably similar to the brain of an African elephant, both in terms of structure (Maseko et al., 2012) and function (Plotnick et al., 2006; Hart et al., 2008).

Opinions

10. In addition to a rather large list of well-documented physical ailments (Riddle & Stremme, 2011) and behavioral abnormalities (Greco et al., 2017) that afflict elephants as well as Orca whales (Marino et al., 2020), the neural consequences of an impoverished environment have been demonstrated in many species to date, including humans (Jacobs et al., 1993). No research of this nature has been completed on elephants and cetaceans as these are post-mortem studies and would therefore require killing of the animal; as such, we are extrapolating from controlled scientific studies with all evidence suggesting that the brains of animals such as cetaceans and elephants would not "behave" any different than the brain of any other mammal, including humans. There is a great deal of evolutionary continuity across the brains of the species that have been examined, which makes this a very logical extension of the existing research. Over 50 years of neuroscience research indicates that an impoverished environment negatively affects the cerebral cortex (Diamond et al., 1964; Diamond, 2001). These effects include a thinner cerebral cortex, decreased blood supply, smaller neuronal cell bodies with few glial ("helper") cells for metabolic support, decreased dendritic branching for synthesizing information, fewer dendritic spines (indicating fewer connections with other neurons), and smaller, less efficient synapses. Additional studies reveal similar epigenetic-related deficiencies at the molecular (van Praag et al., 2000) and neurochemical (Kozorovitskiy et al., 2005) level throughout the brain.
11. A crucial component to an enriched environment is exercise (Basso & Suzuki, 2017), which not only increases the supply of oxygenated blood to a metabolically expensive brain, but also contributes to potential neurogenesis and enhanced cognitive abilities through a series of complex biochemical cascades (Horowitz et al., 2020). Large, captive mammals like elephants and orcas are severely deprived of the exercise component of enrichment, particularly when one realizes that elephants and orcas naturally travel tens of kilometers a day (sometimes more

than 100 kilometers), something they cannot do in a small enclosure (Holdgate et al., 2016)—not to mention that free orcas may also dive hundreds of meters (Reisinger et al., 2015). To put this in perspective, the average tank for an orca is about 10,000 times smaller than its natural home (https://www.cascadiaresearch.org/projects/killer-whales/using-dtags-study-acoustics-and-behavior-southern). Overall, these findings imply that cortical neurons in captive/impoverished elephants and orcas are less complex, receive less metabolic support, and process information less efficiently than cortical neurons from animals in an enriched, more natural environment (Rosenzweig & Bennett, 1969).

12. Two other brain areas are affected negatively by a captive/impoverished environment because such an environment severely constrains or even prevents the natural behavior of elephants and orcas, resulting in chronic frustration, boredom, and stress. Two subcortical (beneath the cortex) brain structures negatively affected by such stress are the hippocampus, involved primarily in declarative (i.e., facts and events) and spatial memory formation, and the amygdala, involved in emotional processing. Decades of neuroscientific research in the laboratory and in the field (Sapolsky, 2005) have demonstrated that prolonged stress results in chronically elevated levels of glucocorticoids (stress hormones) (Sapolsky, 1996). Chronic exposure to these stress hormones contributes to wide-ranging neurodegeneration (Vyas et al., 2016), including neuronal damage/death in the hippocampus (Sapolsky et al., 1990), resulting in memory deficits, and in the amygdala (McEwen et al., 2015), resulting in emotional processing deficits.

13. In natural environments, the body's stress-response system is designed for quick activation to escape from danger; in captivity, there is no escape. In captivity, animals have an almost complete lack of control (Sapolsky, 2012) over their environment. Such situations foster learned helplessness (Maier & Seligman, 2016), which involves the amygdala (Hammack et al., 2012) and broad dysregulation of the neurotransmitter serotonin (Maier & Watkins, 2005). Under similar conditions (Chugani et al., 2001), stress is associated with a variety of neuropsychiatric diseases in humans such as anxiety/mood disorders (Zhang et al., 2018)

including major depression and post-traumatic stress disorder (PTSD) (Koenigs & Grafman, 2009). Given the highly conserved (Nikolova et al., 2018) nature of neural structures (i.e., brains have a lot in common across species), there is no logical reason to believe that the large, complex brains of animals such as elephants (Jacobs et al., 2011) and orcas (Marino et al., 2007) would react any differently to a severely stressful environment than does the human brain.

14. Finally, captivity, and the psychosocial stress it engenders, has negative effects on the complex circuitry between a subcortical collection of nuclei (groups of neurons) known as the basal ganglia and the cerebral cortex. Through a series of reciprocal connections, the basal ganglia select and orchestrate appropriate cortical activity for a given situation, including the two pathways involved in movement: the direct pathway and the indirect pathway. The direct pathway tends to be involved in generating movement/behavior whereas the indirect pathway is more crucial for inhibition of movement/behavior. Normal movement depends on a delicate balance between these two pathways. Stereotypic behavior resulting from stress has been documented in a large number of species (including humans) and is invariably associated with an imbalance in the direct/indirect pathways (McBride & Parker, 2015). More specifically, the indirect pathway is suppressed as a result of dysregulation of two neurotransmitter systems, dopamine and serotonin (Langen et al., 2011). Such behavioral stereotypies may represent a coping strategy as the animal attempts to mitigate the overwhelming effects of psychosocial stress (Poirier & Bateson, 2017). It is worth noting that elephants and cetaceans in their natural habitats have never been noted to exhibit such stereotypies, which reflect underlying (abnormal) disruption of neural mechanisms.

Summary

15. Long-lived individuals with large, complex brains integral to their intricate sociobehavioral existence cannot function normally in captivity. I believe Dr. Joyce Poole has accurately outlined in her affidavit not only the sociobehavioral characteristics of elephants, but also the neural characteristics as well—my contributions here serve to extend her conclusions from the

neural point of view. Physical and behavioral abnormalities are easy to observe, but one has to look deeper to see the neural consequences. Evolution has constructed the brain—of all organisms—to be extremely and exquisitely responsive to the environment (for better and worse). This responsivity extends to the level of gene expression, meaning that the environment can turn on or off different genes (Sapolsky, 2017). As such, the captive environment we place animals in significantly and sometimes permanently alters their brains in a negative manner. From a neural perspective, imprisoning elephants and orcas and putting them on display is undeniably cruel. They should either remain free (and protected) or, if already in captivity, they should be released into well-designed sanctuaries. Several elephant sanctuaries already exist, for example in Tennessee (https://www.elephants.com/) and Northern California (http://www.pawsweb.org/about_our_sanctuaries.html).

I, Bob Jacobs, Ph.D., certify under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

11/24/20
Date

Bob Jacobs, Ph.D.

Exhibit 4

COUNTRY OF ______________________)
)
PROVINCE OF ______________________) ss:
)
MUNICIPALITY OF __________________)

Joint Affidavit of Lucy Bates and Richard M. Byrne

Richard M. Byrne being duly sworn, deposes and says:

I. Introduction and Qualifications

A. Lucy Bates

1. My name is Lucy Bates. I graduated with a Bachelor of Arts (with Honors) in Experimental Psychology from Oriel College at the University of Oxford in 2000. I earned a Master's of Science in Human Biology from the Institute of Biological Anthropology, University of Oxford in 2001 and earned a Ph.D. in Evolutionary Biology from the University of St. Andrews in 2005. From January 2016 to December 2017, I was a Daphne Jackson Trust Postdoctoral Research Fellow at the School of Psychology, University of Sussex, studying culture in elephants. As of January 2018 I have held the title of Visiting Research Fellow at Sussex, and since September 2019 have been additionally employed as an Associate Lecturer within the School of Psychology and Counselling of the Open University. I currently reside in Paris, France.

2. I submit this affidavit in support of Petitioner The Nonhuman Rights Project, Inc. (NhRP) for a writ of habeas corpus on behalf of the captive elephant listed above. I am a nonparty to this proceeding.

3. I study the evolution of cognition and social behavior, and my research focuses on the evolution of cognitive skills which allow social mammals to thrive in close-knit groups. My research has focused on the social and cognitive skills of African elephants since 2005, when I became a Leverhulme Trust Post-Doctoral Research Fellow at the University of St. Andrews. I was an Honorary Research Associate at the University of St. Andrews from 2008

– 2016, and since January 2016 I have continued my research as a Research Fellow at the School of Psychology, University of Sussex.

4. I have been studying elephant cognition and social behaviour for fifteen years, since 2005. During this time, I have worked with the world's pre-eminent elephant biologists, many of whom are also submitting affidavits in this matter, and spent months observing wild African elephants in both Kenya and South Africa, working in collaboration with the Amboseli Trust for Elephants, Elephant Voices, and Save the Elephants. In order to be more efficient, my colleagues and I agreed that I would draft the main affidavit, which I would circulate to my colleagues for them to add or delete anything they believed was appropriate.

5. I have authored 24 scientific articles and book chapters on social cognition in African elephants and primates. These articles have been published in many of the world's premier scientific journals and books, including: APA Handbook of Personality and Social Psychology, Animal Behaviour, Biology Letters, Current Biology, Neuron, and PLoS One. I have also co-authored a field guide to elephant behaviour, and researched and fully drafted ('ghost-wrote') a popular science book about African elephants for a British media personality.

6. In addition to my research work, I also currently serve as a Director and Management Committee Member for the Elephant Specialist Advisory Group (ESAG), South Africa, a non-profit organisation that offers advice on elephant behaviour and management policy for government departments and managers of reserves within South Africa. I have previously acted as a consultant in elephant welfare and conservation, including freelance work for Save the Elephants, Kenya; Ezevelo KwaZulu Natal Wildlife, South Africa; and Society for the Prevention of Cruelty to Animals, Zimbabwe.

7. I have previously served as a consulting expert in legal matters, including: (1) in 2010/11, where I commented on licensing documents and attended a workshop for Ezemvelo KZN (Kwa Zulu Natal) Wildlife authority (South Africa), which resulted in tighter controls

being implemented in the license agreement, considerably improving the elephants' welfare; and (2) in 2009, at the request of the Zimbabwe SPCA, I conducted a site visit and inspection of a private farm where 10 juvenile elephants were being held. The elephants had been illegally captured from the wild and were undergoing training for the elephant-back safari industry. The ZNSPCA presented our reports to the then Minister for Environment and Tourism, who intervened and said that the elephants were to be rehabilitated and released back in to the wild. They were released six months later, and have adapted well.

8. My Curriculum Vitae fully sets forth my educational background and experience and is annexed hereto as "Exhibit A".

Basis for opinions

9. The opinions I state in this Affidavit are based on my professional knowledge, education, training, and over 10 years of experience observing and studying elephants, as well as my knowledge of peer-reviewed literature about elephant behaviour and intelligence published in the world's most respected journals, periodicals and books that are generally accepted as authoritative in the field, and many of which were written by myself or colleagues whom I have known for several years and with whose research and field work I am personally familiar. A full reference list of peer-reviewed literature cited herein is annexed hereto as "Exhibit B".

B. Richard Byrne

10. My name is Richard William Byrne. I earned my Master of Arts with 1st Class Honours in Natural Sciences from St. John's College, Cambridge between 1969-1972. I received my Ph.D. from the University of Cambridge in 1975 for my thesis entitled "Memory in complex tasks." I am a Fellow of the Royal Society of Edinburgh. I reside and work in St. Andrews, Scotland.

11. I submit this affidavit in support of Petitioner The Nonhuman Rights Project, Inc. (NhRP), in support of its petition for a writ of habeas corpus on behalf of the captive elephant named above. I am a nonparty to this proceeding.

12. I have studied the evolution of cognition and social behavior throughout my career. As a Professor of Evolutionary Psychology at the University of St Andrews, Scotland, I have studied the evolution of cognition with a particular focus on the origins of uniquely human characteristics, utilizing evidence from a number of mammalian species including great apes, elephants, and domestic pigs, among other animals. I have studied the evolutionary basis of gestural communication, the use of tools, spatial mapping, cognition, and social behaviour.

13. Over the course of my career, I have received several awards and honors related to my research, including; (1) the Wright Prize & Hughes Prize, St Johns College, Cambridge, in 1972; (2) an MRC Studentship, tenure at MRC Applied Psychology Unit, Cambridge, from 1972-1975; (3) a Development Fellowship from the Association of Commonwealth Universities in 1993; (4) *British Psychology Society* Book Award for my Oxford University Press monograph "The Thinking Ape" in 1997; (5) awarded *Convenorship* of Focus Group 2003, "Precursors to Culture," from the Institute of Advanced Study, Collegium Budapest, Hungary in 2001; (6) elected Fellow of the *Royal Society of Edinburgh* (FRSE) in 2002; and (7) elected Fellow of the *Higher Education Academy* in 2007; (8) awarded *British Psychology Society* Lifetime Achievement Award in 2017.

14. In 1987, I founded (along with Bill McGrew at Stirling University, Liz Rogers at Edinburgh University, and Andy Whiten at St. Andrews University) the *Scottish Primate Research Group*, in order to coordinate the research interests of the 3 centers, promote new joint grant applications, encourage outside visitors to Scotland and postgraduate admissions, and coordinate joint seminars and lectures. The *Scottish Primate Research Group* now boasts national and international acclaim and attendance at hosted research presentations and seminars,

and it is now larger and more productive than ever with 21 faculty members and over 50 affiliated researchers, including at Aberdeen and Abertay Universities. The focus of SPRG research is the natural behaviour, mentality, and ecology of primates. Field studies are carried out by core SPRG members at several sites in Africa, Asia, and South America; captive primate studies rely on well-housed breeding groups at Edinburgh Zoo, particularly the SPRG Living Links Research Centre, as well as primate centers in France, Japan, and the USA. (Full Group member and affiliated researcher information can be found at the SPRG website: http://psy.st-andrews.ac.uk/research/sprg/).

15. I have conducted field work as part of my scientific research in multiple sites over my career, including: (1) at Mont Assirik, Senegal from January to April 1979, studying the Guinea baboon (*Papio papio*); (2) at Giant's Castle Game Reserve, South Africa from August to December 1983, studying the Chacma baboon (*Papio ursinus*); (3) at the Mahale Mountains, Tanzania from July to December 1984, studying the Chimpanzee (*Pan troglodytes*); (4) at the Virunga Volcanoes, Rwanda from July to December 1989, studying the Mountain gorilla (*Gorilla b. beringei*); and (5) at Mbeli Bai, Republic of the Congo from August to October 2010, studying the Western gorilla (*Gorilla g. gorilla*).

16. Throughout my career, I have been involved with Editorial work in a variety of capacities. Since 2000, this editorial work has included: (1) Serving on the Editorial Board of *Current Biology*, ongoing since 2006; (2) Serving on the Editorial Board of *Biology Letters*, from 2007-2013; (3) serving on the Editorial Board of *Animal Cognition*, from 1997-2011; (4) Serving on the Editorial Board of the *Journal of the Royal Anthropological Institute*, from 1995-2010; (5) Refereeing of book proposals for a number of publishers, including Basil Blackwell, Cambridge University Press, Curzon Press, Lawrence Erlbaum Associates, Oxford University Press, and John Wiley; (6) Refereeing of manuscripts for many premier scientific journals, including *Science, Nature, PNAS, Proc.Roy.Soc.B., Phil.Trans.B, TICS, TINS,*

Psychological Science, Psychological Bulletin, and *Current Biology*; (7) Refereeing of promotion applications for a number of Universities in both the USA and United Kingdom, including Arizona State University, University of California San Diego, University of Colorado, University of Florida (Gainesville, FL), Max Planck Institute for Evolutionary Anthropology (Leipzing), Miami University of Ohio, University of Natal (Republic of South Africa), University of Portsmouth (UK), University of Stirling (UK), and York University (Toronto); (8) Refereeing of research grants for many research foundations including the Biomedical and Biological Sciences Research Council (BBSRC), the Economic and Social Research Council (ESRC), Israel Academy of Sciences and Humanities (Basic Research Foundation), LSB Leakey Foundation (Oakley, California), Leverhulme Trust, Medical Research Council (MRC, United Kingdom), National Science Foundation (NSF, USA), National Environment Research Council (NERC, United Kingdom), and the National Science and Engineering Research Council (NSERC, Canada); and (9) Refereeing of research programmes for the Leverhulme Trust, Max-Planck-Society (Germany), and Earthwatch Europe.

17. I am affiliated with a number of professional organizations and have engaged in a variety of professional activities throughout my career. Since the year 2000, this has included: (1) Focus Group Convenor, "Precursors to Culture," at the Collegium Budapest Institute for Advanced Studies, Hungary, from Oct-Dec 2003; (2) Member of the Subgroup on *Use of non-human primates in research and testing* from 2000-2002 for the Boyd Group; (3) Vice-President for the *International Primatological Society* from 1996-2001; (4) organized symposium of 18th Congress of the *International Primatological Society*, Adelaide, 2001; (5) discussant at *Perspectives on Imitation*, France, 2002; (6) discussant at *Nijmegen Lectures*, Max Planck Institute for Psycholinguistics/University of Nijmegen, Holland, 2002; (7) organized symposium of St Andrews International Conference on *Animal Social Learning*,

June 2005; (8) discussant at symposium *The cognitive triangle: Primates, Cetaceans, and Corvids*, Kyoto, 2006; (9) organized symposium of the 23rd Congress of the *International Primatological Society*, Kyoto, 2010; and (10) served as part of the Steering Committee for Assessment for the *Quality Assurance Agency /Scottish Higher Education Funding Council* from 2003-2005.

18. I have written two books concerning my work with cognition: (1) *The Thinking Ape: evolutionary origins of intelligence* (1995, Oxford University Press, Oxford, 266 pages; 1997 *British Psychological Society* Book Award winner; Reprinted annually; Japanese edition published by Otsuki Shoten, Tokyo, 1998; Chinese edition, in translation, published by Hunan Education Publishing House, 2006); (2*) Evolving Insight* (2016, Oxford University Press, Oxford, 304 pages).

19. I have co-edited two books concerning my work with cognition: (1) *Machiavellian Intelligence: Social Expertise and the Evolution of Intellect in Monkeys, Apes and Humans* (Co-edited with A. Whiten, 1988, Oxford University Press, Oxford, 413 pages; Japanese edition published by Nakanishiya Shuppan Press, Kyoto, 2004); (2) *Machiavellian Intelligence II: Extensions and Evaluations* (Co-edited with A. Whiten, Cambridge University Press, Cambridge, 1997, 403 pages; Japanese edition published by Nakanishiya Shuppan Press, Kyoto, 2004).

20. I have published 165 peer-reviewed scientific articles over my career. These articles have been published in many of the world's premier scientific journals, including: *Science, Biology Letters, Animal Cognition, Animal Behaviour, Biosemiotics, Behavioural Ecology and Sociobiology, Current Biology, International Journal of Primatology, Annals of the New York Academy of Sciences, Journal of Comparative Psychology, American Journal of Primatology, Trends in Evolution & Ecology, PLoS Biology, PLoS One, Trends in Cognitive Sciences, Philosophical Transactions of the Royal Society of London – Series B Biological*

Sciences, The Behavioral and brain sciences, Methods, American Journal of Physical Anthropology, Canadian Journal of Psychology, and The British Journal of Mathematical and Statistical Psychology. Over the last four years, specific topics of these publications have included: African elephants interpret a trunk gesture as a clue to direction of interest, Interpretation of human pointing by African elephants – generalization and rationality, African elephants recognize visual attention from face and body orientation, Flexibility and survival of Apes in the Anthropocene, Wild baboons (*Papio ursinus*) remember single foraging episodes, The what as well as the why of animal fun, Change point analysis of travel routes reveals novel insights into foraging strategies and cognitive maps of wild baboons, Age-dependent social learning in a lizard, Isolation rearing does not constrain social plasticity in a family-living lizard, The animal origins of disgust: reports of basic disgust in nonhuman great apes, The gestural repertoire of the wild bonobo (*Pan paniscus*): a mutually understood communication system, The meanings of chimpanzee gestures, Bonobo and chimpanzee gestures overlap extensively in meaning, Using cross correlations to investigate how chimpanzees use conspecific gaze cues to extract and exploit information in a foraging competition, Complexity in animal behaviour: towards common ground, African elephants can use human pointing cues to find hidden food, Deictic gesturing in wild chimpanzees – some possible cases, Laterality in the gestural communication of wild chimpanzees, Age-related differences in the use of the "moo" call in black howler monkeys, Evolutionary origins of human handedness – evaluating contrasting hypotheses, Titi monkey call sequences vary with predator location and type, Animal curiosity, Evidence for semantic communication in Titi monkey alarm calls, The alarm call system of wild black-fronted Titi monkeys, From parsing actions to understanding intentions, Serial gesturing by wild chimpanzees – its nature and function for communication, What are we learning from teaching? Local traditions in gorilla manual skill – Evidence for observational learning of behavioural organization, Animal behaviour in a human world: A crowdsourcing study on horses that open door and gate mechanisms, and Cognition in the wild – exploring animal minds with observational evidence.

21. My scientific work has also been published as chapters in 71 books. Over the last four years, these books have included *The Amboseli Elephants: A Long-Term Perspective on a Long-Lived Mammal* (2011, University of Chicago Press), *Integrating Gestures. The interdisciplinary nature of gesture* (2011, John Benjamins Publishing Company, Amsterdam), *Current research in applied ethology* (2011, Kuratorium für Technik und Bauwesen in der Landwirtschaft e.V. (KTBL), Darmstadt, Germany), *Developments in Primate Gesture Research* (2012, John Benjamins Publishing Company, Amsterdam), *Tool Use in Animals: Cognition and Ecology* (2013, Cambridge University Press), *New Perspectives on the symbolic species* (new edition in press, Springer-Verlag, Heidelberg, Germany), *The Emergence of Personhood: A Quantum Leap?* (in press, William B. Eerdmans Publishing Company, Grand Rapids, Michigan), and *Formal Models in Evolutionary Cognitive Archaeology* (in press, New York: Oxford University Press).

22. I have given major invited lectures at international research meetings and symposia throughout the world over the course of my career. Since the year 2000, these have included: (1) a public lecture and discussion on the topic of deception and fake news, with Evan Davies, BBC, at the Royal Institution, London; (2) the 85th James Arthur Lecture at the American Museum of Natural History (Public lecture, 2015), and a public lecture at Emory University, Atlanta; (3) two lectures in 2013: (a) the Tarragona Laterality Conference (invited lecture to closed conference) and (b) a public lecture at the University of Portsmouth; (4) an Invited lecture in the 2012 Workshop "Unpacking intentionality in animal vocal communication: an integrative approach" at the Institute of Evolutionary Biology, University of Zurich; (5) three lectures in 2011: (a) an invited lecture to a symposium entitled "The Emergence of Personhood" for the John Templeton Foundation, (b) a lecture at a closed workshop entitled "The evolution

of human handedness" at the Hanse-Wissenschaftskolleg in Delmenhorst, Germany, and (c) a public lecture at the Institute of Evolutionary Biology at the University of Zurich; (6) a referential communication for a workshop at the 2010 INCORE Thematic Meeting in Berlin; (7) three lectures in 2009: (a) a Plenary lecture at the 11th Congress of the German Society for Primatology in Hanover, Germany, (b) a public "Year of Darwin Lecture" for the School of Biosciences at Birmingham University, and (c) a lecture at the Workshop "Understanding Tool Use" at the Max Planck Institute for Evolutionary Anthropology in Leipzig, Germany; (8) an invited lecturer at the 2008 Summer School on "Social Cognition" at the Institute of Cognitive Sciences in Montreal; (9) four lectures in 2007: (a) an inter-faculty series "The evolution of social cognition" for the Faculty of Life Sciences at the University of Vienna, (b) a Plenary lecture at the Second Congress of the European Federation of Primatology, at Charles University, Prague, (c) an invited lecture at a Workshop on "Social Cognition" by the MRC/Cold Spring Harbor at St Anne's College, Oxford, and (d) a Plenary lecture at the "Missing Links" conference at Carlsberg Academy, Copenhagen; (10) two lectures in 2006: (a) a lecture at the symposium "From Brain to Culture" hosted by The Royal Society, London, and (b) a Plenary lecture at the 66th Annual Meeting of the Japan Society for Animal Psychology in Kyoto; (11) two lectures in 2005: (a) Plenary lectures at the Portuguese Primatological Association's 2nd International Conference in Lisbon, and (b) a lecture in the "Evolutionary Cognitive Sciences" series at the University of Tokyo; (12) two lectures in 2004: (a) a Public lecture at the Institute of Cognitive & Decision Sciences at the University of Oregon, and (b) a lecture at the closed conference "Roots of Human Sociality" for the Wenner-Gren Foundation for Anthropological Research in North Carolina; (13) an International Workshop in 2003 for the European Workshop in Cognitive Neuropsychology in Bressanone, Italy; (14) three lectures in 2002: (a) a lecture in the Annual Autumn School in Cognitive Neuroscience with the theme "Rational animals?" for the McDonnell-Pew Centre at the

University of Oxford, (b) a lecture at an International Workshop called “Perspectives on Imitation” in Royaumont Abbey, France, and (c) Public lectures for the Fundacio “la Caixa” Museum of Science in Barcelona and the Social & Cultural Centre in Tarragona, Spain; (15) six lectures in 2001: (a) the Keynote Address to the VIIth European Congress of Psychology, forming part of the BPS Centenary in London, (b) a lecture at the “Human Cognition” symposium at the Institute of Cognitive Neurology at UCL, London, (c) a lecture and Press Conference on “Constraints on Culture” for the British Association for the Advancement of Science in Glasgow, (d) the Keynote Lecture for the Consciousness & Experiential Psychology section of the British Psychological Society, (e) a lecture entitled “Knapping Stone: a uniquely hominid behaviour?” for an International Workshop in Abbaye des Premontres, France, and (f) a lecture at an International Workshop “Malingering & Illness Deception” in Blenheim, Oxford; and (16) seven lectures in 2000: (a) a Plenary lecture to the Millennial Meeting “The social brain” for the British Neuropsychiatry Association, (b) the Invited Main Lecture entitled “Primate Cognition” for the International Congress for Cognitive Science in Inuyama, Japan, (c) a lecture at the Symposium “Animal Architecture” for the Gaia Research Project in Edinburgh, (d) a lecture at the International Conference “Human Nature” for the Royal Society of Edinburgh in Edinburgh, a lecture at the Workshop “Cognitive Science” at Sorbonne University in Paris, (e) a lecture at the Symposium “The Social Brain” at the Max Planck Institute in Andechs, Germany, and (f) a lecture at the Symposium “Science and Philosophy of Pain” for the University of Ghent, in Ghent, Belgium.

23. In addition to the major invited lectures listed above, I have given invited, funded talks at: Auckland University (Psychology, Zoology); BAAS SET7 Week (St Andrews); Gesamthochschule, Kassel (Primatenbiologie); Deutsches Primatenzentrum, Gottingen; Duke University, North Carolina (Biological Anthropology); Dundee University (teaching forum); Durham University (Psychology, Anthropology); Eotvos Lorand University, Budapest

(Ethology); Hang Sen Centre for Cognitive Studies, Sheffield (twice); Hawaii University, Honolulu (Psychology); Kyoto University; Living Links Center, Emory University; MRC Cognitive Brain Research Unit, Cambridge (twice); Max Planck Institute, Leipzig; Max Planck Institute, Seewiesen, Bavaria; Miami University, Ohio (Zoology); University of Otago, New Zealand (Psychology); Queens University, Kingston Ontario (Psychology); Universite de Rennes 1 (Zoology); Royal Anthropological Institute, London; Royal (Dick) School of Veterinary Studies, Edinburgh; Yerkes Regional Primate Research Center, Atlanta GA; UCSD (Psychology); York University, Toronto (Psychology); Universities of Aberdeen (Psychology), Abertay (Psychology), Cambridge (Psychology), Archaeology & Anthropology), Reading (Archaeology), St Andrews (Divinity, Modern Languages, Zoology, Psychology), Stirling (Psychology), UCL (Archaeology), Sussex (Neuroscience & Robotics), York (Centre for Human Palaeontology & Human Origins); and the Zoological Society of London.

24. Throughout my scientific career, I have had the privilege of supervising PhD level students. Since the year 2000, these have included: (1) R. Noser, (self-funded), "Navigation by chacma baboons within the home-range" from 1999-2004; (2) R. da Cunha (funded by CAPES, Brazil), "Long distance communication of howler monkeys" from 2000-2004; (3) A. Valero (funded by CONACYT, Mexico), "Social interactions of spider monkeys" from 2000-2004; (4) L. Bates (funded by BBSRC), "Foraging skills of female chimpanzees" from 2001-2005; (5) E. Cartmill (funded by Univ. St Andrews), "Gestural communication in great apes" from 2004-2008; (6) F. Moore (joint supervision), "Effects of resource control on female reproductive strategies from 2005-2006; (7) A. Ruiz (funded by James Cook Foundation and ORS), "Monkeys' understanding of intention and attention" from 2005-2009; (8) C. Hobaiter (funded by own EC grant), "Gestural communication in great apes" from 2007-2010; (9) C. Casar (funded by CAPES, Brazil), "Vocal communication of wild Titi monkeys" from 2007-2011; (10) K. Hall (funded by Janet Anderson Trust and ORSAS), "Theory of mind in

chimpanzees" from 2008-2012; (11) L. Orr (funded by NSF Studentship), "Gestural communication in gorillas" from 2010-2014; (12) A. Smet (funded by Univ. St Andrews), "Cognition in the African Elephant" from 2011-2015; (13) B. Fallon (self-funded), Gestural communication by sexually consorting male chimpanzees" 2012 - 2016; and (14) K. Graham (funded by Univ. St Andrews), "Negotiation of sexual relationships among bonobos" 2013 - 2016.

25. In addition to direct supervision of PhD students, I have also served as an External Postgraduate Examiner for individuals. Since the year 2000, these have included: (1) L. Ambrose, Ph.D. Oxford Brookes University (Anthropology) in 2000; (2) A. Nowell, M.Sc. University of Stirling (Psychology) in 2001; (3) B. A. Whiting, M.Sc. University of Durham (Anthropology) in 2002; (4) K. Rigby, Ph.D. London School of Economics (Psychology) in 2002; (5) P. Citrynell, Ph.D. Exeter University (Psychology) in 2003; (6) J. Dally Ph.D. University of Cambridge (Psychology) in 2004; (7) P. Citrynell Ph.D. Exeter University (Psychology, re-examination) in 2004; (8) J. Dalley Ph.D. University of Cambridge (Psychology); (9) Dr. Thomal Bugnyar, Habilitation, University of Vienna (Faculty of Life Sciences) in 2008; (10) C. Bird University of Cambridge (Psychology) in 2009; (11) P. Bertolani University of Cambridge (Archaeology & Anthropology) in 2012; (12) J. Trosciano University of Birmingham (Psychology) in 2012; (13) J. Wathen University of Sussex in 2015; (14) A. Picard, University of York, 2016; (15) A. Frohnwieser, University of Lincoln, 2017; (16) M. de Guinea, Oxford Brookes University, 2020.

26. I have been interviewed and my scientific research has been featured on a number of radio broadcasts, including: (1) interviews with BBC Radio 4 "Today" in 2000 and 2008; (2) with BBC Radio 4 as an interview with Jonathan Miller, "Self-made things" in 2005; (3) interview on Australian Radio with an article on my own research in "The Science Show" in 2001; (4) interview on Radio Netherlands with an article on my own research in 2001.

Additionally, other interviews on my own research have been featured on: ABC Radio Australia, Austrian Broadcasting Corporation, US Public Broadcasting Network, Breakfast Radio Auckland (NZ), Radio Canada, Western Australia Radio, Discovery Canada, Radio New Zealand "Morning Report," Radio Ireland, Talkback Radio (Ireland), BBC World Service, BBC Radio Scotland, Radio Wales, Radio Cambridgeshire, BBC Radio Jersey, BBC Radio 5 Live, Radio Tay, Kingdom FM, Talk 107, Voice of Russia, and Wave 102.

27. I have appeared and been featured in a number of Television broadcasts, including: (1) Interview with BBC1 6 O' Clock News (Scotland) on my own great ape research in 2008; (2) Interview with BBC1 6 O' Clock News (UK) on my own elephant research in 2013; (3) as a consultant for the BBC2 Program "The Secret Life of Pigs" in 2010; (4) Interview with BBC World/BBC4 Evening News on my own elephant research in 2013; (5) Interview with ITV/STV (ITN News) on my own elephant research in 2013; and (6) Interview with Australian ABC Channel TV as part of a programme on my research in the "Catalyst" series.

28. My Curriculum Vitae fully sets forth my educational background and experience and is annexed hereto as "Exhibit C".

Basis for opinions

29. The opinions I state in this Affidavit are based on my professional knowledge, education, training, and years of experience observing and studying elephants, as well as my knowledge of peer-reviewed literature about elephant behaviour and intelligence published in the world's most respected journals, periodicals and books that are generally accepted as authoritative in the field, and many of which were written by myself or colleagues whom I have known for several years and with whose research and field work I am personally familiar. A full reference list of peer-reviewed literature cited herein is annexed hereto as "Exhibit B".

II. Opinions

A. Premise

30. Elephants are autonomous beings. Autonomy in humans and nonhuman animals is defined as self-determined behaviour that is based on freedom of choice. As a psychological concept it implies that the individual is directing their behaviour based on some non-observable, internal cognitive process, rather than simply responding reflexively. Although we cannot directly observe these internal processes in other humans, we can explore and investigate them by observing, recording and analysing their behaviour. We can explore autonomy in non-human animals in a similar way, by observing similar behaviour and recording evidence of shared cognitive capacities in elephants.

31. We shall indicate which species, African (*Loxodonta Africana*) or Asian (*Elephus maximus*), specific observations relate to. If the general term 'elephants' is used with no specific delineation, it can be assumed the comment relates to both species.

B. Brain And Development

32. Elephants are large-brained, with the biggest absolute brain size of any land animal (Cozzi et al. 2001; Shoshani et al. 2006). Even relative to their body sizes, elephant brains are large. Encephalization quotients (EQ) are a standardised measure of brain size relative to body size, and illustrate by how much a species' brain size deviates from that expected for its body size. An EQ of one means the brain is exactly the size expected for that body, and values greater than one indicate a larger brain than expected (Jerison 1973). Elephants have an EQ of between 1.3 and 2.3 (varying between sex and African and Asian species). This means an elephant's brain can be more than twice as large than is expected for an animal of its size. These EQ values are similar to those of the great apes, with whom elephants have not shared a common ancestor for almost 100 million years (Eisenberg 1981, Jerison 1973). Given how metabolically costly brain tissue is, the large brains of elephants must confer significant advantages; otherwise their

size would be reduced. The advantage of a large brain is to allow greater cognitive skill and behavioural flexibility (Bates et al. 2008a).

33. Typically, mammals are born with brains weighing up to 90% of the adult weight. This figure drops to about 50% for chimpanzees. Human baby brains weigh only about 27% of the adult brain weight, increasing in size over the prolonged childhood period (Dekaban & Sadowsky 1978). This long period of brain development over many years (termed 'developmental delay') is a key feature of human brain evolution. It provides a longer period in which the brain may be shaped by experience and learning (Fuster 2002), and plays a role in the emergence of our complex cognitive abilities such as self-awareness, creativity, forward planning, decision making, and social interaction (Bjorkland 1997). Likewise, elephant brains at birth weigh only about 35% of their adult weight (Eltringham 1982), and elephants show a similarly protracted period of growth, development and learning (Lee 1986). This similar developmental delay in the elephant brain is likewise associated with the emergence of analogous cognitive abilities.

34. Despite nearly 100 million years of separate evolution (Hedges 2001), elephants share certain characteristics of our large brains, namely deep and complex folding of the cerebral cortex, large parietal and temporal lobes, and a large cerebellum (Cozzi et al. 2001). The temporal and parietal lobes of the cerebral cortex manage communication, perception, and recognition and comprehension of physical actions (Kolb and Whishaw 2008), while the cerebellum is involved in movement, planning, empathy, and predicting and understanding the actions of others (Barton 2012). The physical similarities between human and elephant brains occur in areas that are relevant to capacities necessary for autonomy and self-awareness.

35. Elephant brains hold three times more neurons than do human brains, with 97% of their found neurons in the cerebellum and 5.6 billion neurons in the cerebral cortex (Herculano-Houzel et al. 2014). (This figure for cortical neurons is lower than previous estimates, which

suggested 11 billion cortical neurons for elephants and 11.5 billion for humans (Roth & Dicke 2005)). Elephants' pyramidal neurons (a class of neuron that is found in the cerebral cortex, particularly the pre-frontal cortex - the brain area that controls executive functions) are larger than in humans and most other species (Cozzi et al. 2001; Jacobs et al. 2011). (This term "executive function" refers to controlling operations, for example paying attention, inhibiting inappropriate responses, deciding how to use memory search, and so on. These abilities develop late in human infancy and are often impaired in dementia).

36. Elephant pyramidal neurons have a large dendritic tree, i.e. a large number of connections with other neurons for receiving and sending signals (Cozzi et al. 2001; Jacobs et al. 2011; Maseko et al. 2012). The degree of complexity of pyramidal neurons is linked to cognitive ability, with more (and more complex) connections between pyramidal neurons being associated with increased cognitive capabilities (Elston 2003).

37. As described below, evidence demonstrates that along with these common brain and life-history characteristics, elephants share many behavioural and intellectual capacities with humans, including: self-awareness, awareness of death, empathy, intentional communication, learning, memory, and categorisation abilities. Many of these capacities have previously been considered – erroneously – to be uniquely human, and each relates to autonomy and self-determination.

C. Awareness Of Self And Others

38. An Asian elephant has exhibited Mirror Self Recognition (MSR) using Gallup's classic 'mark test' (Gallup 1970; Plotnik et al. 2006). MSR is the ability to recognise a reflection in the mirror as oneself, and the mark test involves surreptitiously placing a coloured mark on an individual's forehead that it could not see or be aware of without the aid of a mirror. If the individual uses the mirror to investigate the mark, the individual must recognise the reflection as herself. (See "Video 1", attached on CD as "Exhibit D"). Despite numerous

attempts and trials in other species, the only other mammals (beyond humans) who have successfully passed the mark test and exhibit MSR are the great apes (chimpanzees, bonobos, gorillas and orangutans) (Parker, Mitchell & Boccia 1994) and one bottlenose dolphin Reiss and Marino 2001). MSR is significant because it is a key identifier of self-awareness. Self-awareness is intimately related to autobiographical memory in humans (Prebble et al. 2013) and is central to autonomy and being able to direct one's own behaviour to achieve personal goals and desires. ("Autobiographical memory" refers to what one remembers about his or her own life; for example, not that "Paris is the capital of France", but the recollection that you had a lovely time when you went there). By demonstrating that they can recognize themselves in a mirror, elephants must be holding a mental representation of themselves from another perspective, and thus be aware that they are a separate entity from others (Bates and Byrne 2014).

39. Related to possessing a sense of self is an understanding of death. Observing reactions to dead family or group members appears to demonstrate an awareness of death in two known animal genera beyond humans; chimpanzees and elephants (Anderson et al. 2010, Douglas-Hamilton et al. 2006; Sharma et al. 2019). Having a mental representation of the self – a pre-requisite for mirror-self recognition – likely also confers an ability to comprehend death. Wild African elephants have been shown experimentally to be more interested in the bones of dead elephants than the bones of other animals (McComb et al. 2006) (See "Video 2", attached on CD as "Exhibit E"), and they have frequently been observed using their tusks, trunk or feet to attempt to lift sick, dying or dead individuals (see Poole & Granli 2011; Goldenberg & Wittemyer 2020). Although they do not give up trying to lift or elicit movement from the body immediately, elephants appear to realise that once dead, the carcass cannot be helped anymore, and instead they engage in more 'mournful' behaviour, such as standing guard over the body and protecting it from the approaches of predators (Poole & Granli 2011; Goldenberg &

Wittemyer 2020) (See "Photographs", attached on CD as "Exhibit F"). They also have been observed to cover the bodies of dead elephants with dirt and vegetation (Moss 1992; Poole 1996). In the particular case of mothers who lose a calf, although they may remain with the calf's body for an extended period, they do not behave towards the body as they would a live calf. Indeed, the general demeanour of elephants who are attending to a dead elephant is one of grief and compassion, with slow movements and few vocalisations (Poole, pers. comm.; Goldenberg & Wittemyer 2020). These behaviours are akin to human responses to the death of a close relative or friend, and illustrate that elephants possess some understanding of life and the permanence of death.

40. The capacity for mentally representing the self as an individual entity has been linked to general empathic abilities (Gallup 1982), where empathy can be defined as identifying with and understanding another's experiences or feelings by relating personally to their situation. Empathy is an important component of human consciousness and autonomy, and is a cornerstone of normal social interaction. It goes beyond merely reading the emotional expressions of others. It requires modeling of the emotional states and desired goals that influence others' behaviour both in the past and future, and using this information to plan one's own actions; empathy is only possible if one can adopt or imagine another's perspective, and attribute emotions to that other individual (Bates et al. 2008b). Empathy is, therefore, a component of and reliant on 'Theory of Mind' - the ability to mentally represent and think about the knowledge, beliefs and emotional states of others, whilst recognising that these can be distinct from your own knowledge, beliefs and emotions (Premack and Woodruff 1978; Frith and Frith 2005).

41. Elephants clearly and frequently display empathy in the form of protection, comfort and consolation, as well as by actively helping those who are in difficulty, such as assisting injured individuals to stand and walk, or helping calves out of rivers or ditches with

steep banks (Bates et al. 2008b; Lee 1987). Elephants have even been observed feeding those who are not able to use their own trunks to eat (Poole and Granli 2011).

42. In an analysis of behavioural data collected from wild African elephants over a 40-year continuous field study, we concluded that as well as possessing their own intentions, elephants can diagnose animacy and goal directedness in others, understand the physical competence and emotional state of others, and attribute goals and mental states (intentions) to others (Bates et al. 2008b), as evidenced in the examples below:

> *'IB family is crossing river. Infant struggles to climb out of bank after its mother. An adult female [not the mother] is standing next to calf and moves closer as the infant struggles. Female does not push calf out with its trunk, but digs her tusks into the mud behind the calf's front right leg which acts to provide some anchorage for the calf, who then scrambles up and out and rejoins mother.'*
>
> (See "Video 3," attached on CD as "Exhibit G").
>
> *'At 11.10ish Ella gives a 'lets go' rumble as she moves further down the swamp . . . At 11.19 Ella goes into the swamp. The entire group is in the swamp except Elspeth and her calf [<1 year] and Eudora [Elspeth's mother]. At 11.25 Eudora appears to 'lead' Elspeth and the calf to a good place to enter the swamp — the only place where there is no mud.'*

Examples such as these demonstrate that the acting elephant (the adult female in the first example, and Eudora in the second) was able to understand the intentions of the other (the calf in the first case, and Elspeth in the second) – i.e. to either climb out of or into the water – and they could adjust their own behaviour in order to counteract the problem being faced by the other. Whilst humans may act in this helpful manner on a daily basis, such interactions have been recorded for very few non-human animals (Bates et al. 2008b).

43. Experimental evidence from captive African elephants further demonstrates that elephants attribute intentions to others, as they follow and understand human pointing gestures - the only wild animal so far shown to do so spontaneously – and can also read direction information in the trunk movements of other elephants (Smet and Byrne 2020). The elephants understood that the human experimenter was pointing in order to communicate information to them about the location of a hidden object (Smet and Byrne 2013) (See "Video 4", attached on CD as "Exhibit H"). Attributing intentions and understanding another's reference point is central to empathy and theory of mind.

44. Our analysis of simulated oestrus behaviours in African elephants – whereby a non-cycling, sexually experienced older female will simulate the visual signals of being sexually receptive, even though she is not ready to mate or breed again – shows that these knowledgeable females adopt false oestrus behaviours in order to demonstrate to naïve young females how to attract and respond appropriately to suitable males. The experienced females may be taking the youngsters lack of knowledge into account and actively showing them what to do; an example of true teaching as it is defined in humans. This evidence, coupled with the data showing that they understand the ostensive cues in human pointing, demonstrates that elephants do share some executive theory of mind skills with humans, namely understanding the intentions and knowledge states (minds) of others. (Ostension is the way that we can "mark" our communications to show people that that is what they are. If you do something that another copies, that's imitation; but if you deliberately indicate what you are doing to be helpful, that's "ostensive" teaching. Similarly, we may "mark" a joke, hidden in seemingly innocent words; or "mark" our words as directed towards someone specific, by catching their eye. Ostension implies that the signaler knows what they are doing).

45. Further related to empathy, coalitions and cooperation have been documented in wild African elephants, particularly to defend family members or close allies from (potential)

attacks by outsiders, such as when a family group tries to 'kidnap' a calf from an unrelated family (Lee 1987; Moss and Poole 1983). These behaviours are based on one elephant understanding the emotions and goals of the coalition partner (Bates et al. 2008b).

46. Cooperation is also evident in experimental tests with captive Asian elephants, whereby elephants demonstrated they can work together in pairs to obtain a reward, and understood that it was pointless to attempt the task if their partner was not present or could not access the equipment (Plotnik et al. 2011) (See "Video 5", attached on CD as "Exhibit I"). Problem-solving and working together to achieve a collectively desired outcome involve mentally representing both a goal and the sequence of behaviours that is required to achieve that goal; it is based on (at the very least) short-term action planning.

47. Wild elephants have frequently been observed engaging in cooperative problem solving, for example when retrieving calves that have been kidnapped by other groups, or when helping calves out of steep, muddy river banks (Bates et al. 2008b; Moss 1992). These behaviours demonstrate the purposeful and well-coordinated social system of elephants, and show that elephants can hold particular aims in mind and work together to achieve those goals. Such intentional, goal-directed action forms the foundation of independent agency, self-determination, and autonomy.

48. Elephants also show innovative problem solving in experimental tests of insight (Foerder et al. 2011), where insight can be defined as the 'a-ha' moment when a solution to a problem 'suddenly' becomes clear. (In cognitive psychology terms, insight is the ability to inspect and manipulate a mental representation of something, even when you can't physically perceive or touch the something at the time. Or more simply, insight is thinking and using only thoughts to solve problems (Richard Byrne, *Evolving Insight*, Oxford Online Press, 2016[1]). A juvenile male Asian elephant demonstrated just such a spontaneous action by moving a plastic

[1] Available at https://global.oup.com/academic/product/evolving-insight-9780198757078?cc=us&lang=en&.

cube and standing on it to obtain previously out-of-reach food. After solving this problem once, he showed flexibility and generalization of the technique to other, similar problems by using the same cube in different situations, or different objects in place of the cube when it was not available (See “Video 6” attached on CD “Exhibit J”). This experiment again demonstrates that elephants can choose the appropriate action and incorporate it into a sequence of behaviour in order to achieve a goal, which they kept in mind throughout the process.

49. Further observations and experiments also demonstrate Asian elephants’ ability to understand goal-directed behaviour (Irie-Sugimoto et al. 2008; Mizuno et al. 2016). When presented with food that was out of reach, but with some bits resting on a tray that could be pulled within reach, the elephants learned to pull only those trays that were baited with food (Irie-Sugimoto et al. 2008). Success in this kind of ‘means-end’ task is a demonstration of causal knowledge, which requires understanding not just that two events are associated with each other but also that there is some mediating force that connects and affects the two which may be used to predict and control events. Moreover, understanding causation and inferring object relations may be related to understanding psychological causation, i.e., the appreciation that others are animate beings that generate their own behaviour and have mental states (e.g., intentions).

D. Communication and social learning

50. Speech is a voluntary behaviour in humans, whereby a person can choose whether to utter words and thus communicate with another. Therefore, speech and language are reflections of autonomous thinking and intentional behaviour. Elephants also use their vocalisations to share knowledge and information with others (Poole 2011). Male elephants primarily communicate about their sexual status, rank, and identity, whereas females and dependents call to emphasise and reinforce their social units. Call types can generally be separated into calls produced by the larynx (such as rumbles) or calls produced by the trunk

(such as trumpets), with different calls in each category being used in different contexts (Poole 2011; Poole and Granli 2009; Soltis et al. 2005; Stoeger-Horwarth et al. 2007; Wood et al. 2005). Field experiments have shown that African elephants distinguish between different call types (for example, contact calls – rumbles that travel long distances to maintain associations between elephants that could be several kilometres apart, or oestrus rumbles – that occur after a female has copulated) and these different call types elicit different responses in the listeners. Elephant vocalisations are not simply reflexive, they have distinct meanings to listeners and they are truly communicative, similar to the volitional use of language in humans (Leighty et al. 2008; Pardo et al. 2019; Poole 1999; Poole 2011; Stoeger & Baotic 2016, 2017).

51. Furthermore, elephants have been shown to vocally imitate the sounds they hear around them, from the engines of passing trucks to the commands of human zookeepers (Poole et al. 2005; Stoeger et al. 2012). Imitating another's behaviour can be demonstrative of a sense of self, as it is necessary to understand how one's own behaviour relates to the behaviour of others.

52. Elephants display a wide variety of gestures, signals and postures, used to communicate information to the audience (Poole and Granli 2011). Such signals are adopted in many different contexts, such as aggressive, sexual, or socially integrative situations, and each signal is well defined and results in predictable responses from the audience. That is, each signal or gesture has a specific meaning both to the actor and recipient. Elephants' use of gestures demonstrates that they communicate intentionally and purposefully to share information with others and/or alter the others' behaviour to fit their own will.

53. Experimental evidence demonstrates that African elephants recognize the importance of visual attentiveness of the intended recipient (in this case, human experimenters) of gestural communication (Smet & Byrne 2014), further supporting that elephants' gestural

communication is intentional and purposeful. Furthermore, the ability to understand the visual attentiveness and perspective of others is crucial for empathy and mental-state understanding.

E. Memory And Categorisation

54. Elephants have both extensive and long-lasting memories, just as the folk stories and adages encourage us to believe. McComb et al. (2000), using experimental playback of long-distance contact calls in Amboseli National Park, Kenya, showed that African elephants remember and differentiate the voices of at least 100 other elephants. Each adult female elephant tested was familiar with the contact-call vocalizations of individuals from an average of 14 families in the population. When the calls were from the test elephants' own family, they contact-called in response and approached the location of the loudspeaker and when they were from another non-related but familiar family— that is, one that had previously been shown to have a high association index with the test group— they listened but remained relaxed. However, when a test group heard unfamiliar contact calls (from groups with a low association index with the test group), they bunched together and retreated from the area.

55. McComb et al. (2001) went on to show that this social knowledge accumulates with age, with older females having the best knowledge of the contact calls of other family groups. McComb et al. (2011) also showed that older females are better leaders, with more appropriate decision-making in response to potential threats (in this case, in the form of hearing lion roars). Younger matriarchs under-reacted to hearing roars from male lions, elephants' most dangerous predators. Sensitivity to the roars of male lions increased with increasing matriarch age, with the oldest, most experienced females showing the strongest response to this danger. These experimental studies show that elephants continue to learn and remember information about their environments throughout their lives, and this accrual of knowledge allows them to make better decisions and better lead their families as they grow older.

56. Further demonstration of elephants' long-term memory comes from data on their

movement patterns. African elephants are known to move over very large distances in their search for food and water. Leggett (2006) used GPS collars to track the movements of elephants living in the Namib Desert. He recorded one group traveling over 600 km in five months, and Viljoen (1989) showed that elephants in the same region visited water holes approximately every four days, even though some of them were more than 60km apart. Elephants inhabiting the deserts of both Namibia and Mali have been described traveling hundreds of kilometers to arrive at remote water sources shortly after the onset of a period of rainfall (Blake et al. 2003; Viljoen 1989), sometimes along routes that researchers believe have not been used for many years. These remarkable feats suggest exceptional cognitive mapping skills, reliant on the long-term memories of older individuals who traveled that path sometimes decades earlier. Indeed, it has been confirmed that family groups with older matriarchs are better able to survive periods of drought. The older matriarchs lead their families over larger areas during droughts than those with younger matriarchs, again apparently drawing on their accrued knowledge (this time about the locations of permanent, drought-resistant sources of food and water) to better lead and protect their families (Foley et al. 2008).

57. Significantly, it has recently been shown that long-term memories, and the decision-making mechanisms that rely on this knowledge, are severely disrupted in elephants who have experienced trauma or extreme disruption due to 'management' practices initiated by humans. Shannon et al. (2013) demonstrated that elephants in South Africa who had experienced trauma decades earlier showed significantly reduced social knowledge. During historic culling practices, juvenile 'cull-orphan' elephants were forcibly separated from family members and subsequently translocated to new locations. Two decades later, they still showed impoverished social knowledge and skills, with impaired decision-making abilities compared to elephants from an undisturbed population in Kenya. Disrupting elephants' natural way of life has substantial negative impacts on their knowledge and decision-making abilities, much

as it can with humans.

58. Elephants demonstrate advanced ‘working memory’ skills. Working memory is the ability to temporarily store, recall, manipulate, and coordinate items from memory. Working memory directs attention to relevant information, and results in reasoning, planning, and coordination and execution of cognitive processes through use of a ‘central executive’ (Baddeley 2000). Adult human working memory is generally thought to have a capacity of around seven items. In other words, we can keep about seven different items or pieces of information in mind at the same time (Miller 1956). We conducted experiments with wild elephants in Amboseli National Park, Kenya, manipulating the location of fresh urine samples from related or unrelated elephants. The elephants’ responses to detecting urine from known individuals in surprising locations showed that they are able to continually track the locations of at least 17 family members in relation to themselves, as either absent, present in front of self, or present behind self (Bates et al. 2008c). This remarkable ability to hold in mind and regularly update information about the locations and movements of a large number of family members is best explained by the fact that elephants possess an unusually large working memory capacity, apparently much larger than that of humans.

59. Elephants show sophisticated categorisation of their environment, with skills on a par with those of humans. We experimentally presented the elephants of Amboseli National Park, Kenya, with garments that gave olfactory or visual information about their human wearers - either Maasai warriors (men who traditionally attack and spear elephants on occasion as part of their rite of passage), or Kamba men (who are agriculturalists and traditionally pose little threat to elephants). In the first experiment, the only thing that differed between the cloths was the smell, derived from the ethnicity and/or lifestyle of the wearers. The elephants were significantly more likely to run away when they sniffed cloths worn by Maasai men than those worn by Kamba men or no one at all (See “Video 7” attached on CD as “Exhibit K”). In a

second experiment, we presented the elephants with two cloths that had not been worn by anyone, but here one was white (a neutral stimulus) and the other was red—the color that is ritually worn by Maasai warriors. With access only to these visual cues, the elephants showed significantly greater reaction to red garments than white, often including signs of aggression. We concluded that elephants are able to categorize a single species (humans) into sub-classes (i.e. 'dangerous' or 'low risk') based on either olfactory or visual cues alone (Bates et al. 2007). McComb et al. went on to show that the same elephants can also distinguish between human groups based on our voices. The elephants reacted differently (and appropriately) depending on whether they heard Maasai or Kamba men speaking, and also when they heard male or female Maasai (where female Maasai pose no threat as they are not involved in spearing events), and adult Maasai men or young Maasai boys (McComb et al. 2014). Scent, sounds and visual signs associated specifically with Maasai men are categorized as 'dangerous', while neutral signals are attended to but categorized as 'low risk'. Two captive Asian elephants have also recently been shown to differentiate between familiar and unfamiliar humans based on visual and olfactory signals (Polla et al. 2018). Asian elephants have also shown remarkable skills in judging quantities, using both visual and olfactory information (Irie et al. 2019; Plotnik et al. 2019), leading to the statement in one peer-reviewed paper that elephants 'have cognitive characteristics partially identical to human counting' (Irie et al. 2019). These sophisticated, multi-modal categorization and numerical skills may be exceptional among non-human animals. Moreover, these experiments demonstrate elephants' acute sensitivity to the human world – monitoring our behavior and learning to recognize when we might cause them harm.

III. Conclusion

60. Both African and Asian elephants demonstrate highly adapted cognitive abilities, and share many key traits of advanced cognition and autonomy with humans. Based on the evidence, it is clear to us they should also be considered autonomous beings.

61. Scientific knowledge about elephant intelligence has been increasing rapidly in the past decade: what we currently know is only a tiny fraction of what elephant brains are likely capable of, and yet more amazing abilities are still likely to be discovered.

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I, Richard M. Byrne, Ph.D., certify under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

27 Jan 2021 RWByrne

Date Richard M. Byrne, Ph.D.

61. Scientific knowledge about elephant intelligence has been increasing rapidly in the past decade: what we currently know is only a tiny fraction of what elephant brains are likely capable of, and yet more amazing abilities are still likely to be discovered.

I, Lucy Bates, Ph.D., certify under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

3rd Feb 2021

Date Lucy Bates, Ph.D.

Exhibit 5

COUNTRY OF UNITED KINGDOM)

COUNTY OF OXFORDSHIRE......) ss :

MUNICIPALITY OF OXFORD............)

Affidavit of William Keith Lindsay

William Keith Lindsay, being duly sworn, deposes and says:

Introduction and Qualifications:

1. My full name is William Keith Lindsay. I am known more generally by the name Keith Lindsay. I was awarded Bachelor of Science with Honours in Zoology from the University of British Columbia, Vancouver, Canada, in 1974. I completed an MSc in Zoology at the University of British Columbia in 1982, under the supervision of Professor A.R.E. Sinclair, with a dissertation entitled "Habitat selection and social group dynamics of African elephants, in Amboseli Kenya." I received a PhD in Zoology at the University of Cambridge in 1994, under the supervision of Dr. S.K Eltringham, for my dissertation entitled "Feeding ecology and population demography of African elephants in Amboseli, Kenya." I have published over forty scholarly articles related to elephants. My CV, which lists these articles, is attached as **Exhibit A**.
2. I submit this affidavit in support of the Nonhuman Rights Project, Inc. (NhRP) for a writ of habeas corpus on behalf of the elephants Nolwazi, Amahle, and Vusmusi, who are confined at the Fresno Chaffee Zoo (FCZ) in Fresno, California. I have personal and professional knowledge of the facts to which I attest, and I am not a party to the proceedings.
3. I am a natural resources advisor/monitoring & evaluation expert with over 40 years of professional experience in Southeast Asia, Africa, Latin America, the Caribbean, North America and Europe, in planning, conducting and evaluating field projects and in senior administrative and leadership roles. I was a senior staff member at the Oxford-based consultancy, The Environment & Development Group (EDG), during 1994-2013. I undertook a variety of long- and short-term consultancy missions and project work, both independently and with EDG, in project/programme monitoring and evaluation, environmental assessment and land-use planning, community-based natural resource management, protected area monitoring and management, and biodiversity research and

conservation. Since 2013, I have been an independent consultant on assignments for international donor agencies and nongovernmental organizations (NGO) in Africa and Asia.

4. My life-long involvement with elephants began in 1977 when I joined the Amboseli Elephant Research Project (AERP) in southern Kenya. I went on to undertake and complete my MSc and PhD research projects on feeding ecology and population processes, through observational study of free-ranging wild African elephants in their natural environment. I have remained a Collaborating Researcher with AERP, focusing on ecosystem change, elephant ranging, and human-elephant co-existence. There has been cross-over into my professional work; since the late 1980s/early 1990s, I have had elephant-focused assignments in all parts of Africa, including southern Africa (elephant management policies in Botswana and South Africa), Central Africa (regional elephant conservation coordination for the Convention on Migratory Species), West Africa (research on the movements, population structure and habitat requirements of the Gourma elephants in Mali) and East Africa (Kenya's national elephant strategy, woodland habitat conservation in Tanzania). My work in Asia includes community-based natural resource management and conservation in elephant-populated regions of Cambodia and Thailand and promotion of human-elephant coexistence in Myanmar. My current concerns include stopping the international trade in ivory and live elephants through supporting African elephant range states in a coordinated action on CITES (the Convention on the International Trade in Endangered Species) and facilitating dialogue towards resolution of human-elephant land-use conflict, in partnership with practitioners within and between Africa and Asia. For the past 10 years, I have been active in promoting improved well-being for elephants held in captivity in North American, European, and Asian zoos and circuses.
5. My participation in academic groups include as Associate Fellow, 2003-2006, Environmental Change Institute, University of Oxford, and Member, 2009-present, Oxford Centre for Tropical Forests, University of Oxford. I have been a member of the IUCN/ Species Survival Commission's African Elephant Specialist Group (AfESG) during 1992-2001 and more recently from September 2020 to present.
6. Much of my experience with elephant biology derives from my work with African savanna elephants but the fundamental principles of elephant ecology and behavior are applicable to African forest elephants and to Asian elephants. There is extensive literature on all three species, and while there are certainly documented distinctions between them in terms of habitat and food choices, and social behavior and relationships, the similarities due to common phylogeny and physical attributes and needs far outweigh these differences of

detail. Throughout this document, I will simply refer to 'elephants,' but the consequences apply equally to all elephant taxa. The observations herein apply generally to captive elephants as well as those living in the wild.

Autonomy and higher cognition demonstrated in elephants' foraging decisions and use of space

7. As the largest living land animals, elephants have proportionately enormous metabolic requirements and thus the greatest need to find sufficient nutrients for maintenance, growth and reproduction (Christiansen 2004). They are the ultimate generalist herbivores, and they satisfy this ongoing need for nutrition by selecting diets from the diverse vegetation on offer in complex and constantly variable natural ecosystems (Roever *et al.* 2012; Woolley *et al.* 2011; Lindsay 1994). These ecosystems present both foraging opportunities and existential risks from natural and human hazards.
8. To navigate their way through this landscape of potential rewards and threats, elephants have evolved sensory systems and cognitive capacities that allow them to develop and exhibit flexible and responsive decision strategies, appropriate to each individual animal as well as to members of their social groups, to cope and prosper in the face of these multi-layered challenges (Poole & Granli 2009).
9. It has now been recognized that elephants possess complex cognitive abilities comparable in many respects to higher primates and cetaceans. Byrne & Bates (2011) reviewed the findings of research on elephants in the wild and in captivity and confirmed their significant capacity in several areas of physical and social cognition:
    - Physical cognition:
        - Knowledge of environmental spaces and objects
        - Use of tools and understanding of causality
        - Learning to discriminate among features and categories
        - Quantity judgments
    - Social cognition
        - Knowing about others and their interactions
        - Communication and social manipulation
        - Social learning
        - Theory of mind
10. Elephants display a high degree of autonomy in the choices they make throughout their decades-long lives. Several of the aspects of elephants' physical cognition, particularly in

the way they find their way around their natural environment, its rewards and hazards, will be discussed in the sections below.

Foraging strategies: selectivity, manipulation, memory, anatomy and cognitive ability

11. Elephants select items from all parts of plants and a vast range of species in plant communities (Poole & Granli 2009; Lindsay 1994). The major component of biomass in most plants is structural materials, including fibrous stems, branches, and roots. Down the abundance scale, with less fibre and greater soluble cell contents, are leaves and finally the most nutritious plant parts: fruits, seeds and flowers. In order to satisfy their large absolute forage needs, elephants must include in their diets large quantities of coarse plant material and cell walls, with varying degrees of lignification, and relatively smaller amounts of easily digestible material. The relative amounts of digestible plant parts will vary greatly between plant communities, and between seasons in the same locations (Roever *et al.* 2012; Duffy *et al.* 2011).
12. An elephant's foraging strategy must be able to respond to these changes, making use of the best foraging opportunities at any given time and place. These opportunities present themselves in areas of land ranging from tens to many thousands of square miles, depending on the productivity of the plant communities and their spatial extent (Sukumar 2003). In zones that are more stable and well-watered within and between years, large amounts of digestible plants will be more-or-less continuously available and there may be little need to cross more than a few square miles in search of food. In the more arid savannas and semi-deserts of sub-Saharan Africa, the timing and localization of rainfall events is much less predictable between years and their range areas are necessarily much larger, and flexible (Young *et al.* 2009, Duffy *et al.* 2011). Paradoxically, the forests of much of Asia and the African Congo basin provide relatively little food at ground level, with biomass and leaf canopy locked up in treetops. Forest elephants rely on scattered and ephemeral openings in the forest cover and seasonally fruiting trees for their forage (Campos-Arceiz & Blake 2011). To achieve the optimal nutritional intake, elephants must have considerable capacity for spatial and categorical memory of the localities of the plants available in the best foraging sites and their timings within such ranges (Roever *et al.* 2012).
13. There are different components to the predictability of food supplies: some plant communities, such as wetlands, will be continuously productive although with possibly less nutritious/more fibrous food, while others may be temporarily productive only during times of abundant rainfall yet may have highly nutritious plant components. The pattern of food

abundance can change between years, varying between drought and plenty (Birkett *et al.* 2012). In forests, the timing of fruiting varies between different tree species, which are widely distributed and often isolated. Elephants learn all these locations and timings, remember, and recall them when appropriate (Polansky *et al.* 2015). Older elephants retain knowledge of past events and locations of food and water that were appropriate at specific times of drought or plenty, and they teach this knowledge to younger family members (McComb *et al.* 2001).

14. This memory spans years and even decades, and there is evidence that older female elephants in family groups have better survival in droughts than do younger animals, as they lead their companions to the best spots that had been favorable in the past (McComb *et al.* 2001). Areas of the brain active in spatial memory are well-developed in elephants (Jacobs *et al.* 2011). But to make use of this memory, they must also be able to put memories together with sensory information, and make the correct decisions on direction and distance to move (Polansky *et al.* 2015, Jacobs *et al.* 2014).
15. With their highly developed sense of smell, and in combination with hearing thunder, elephants can detect the direction of distant rainstorms that will result in flushes of fresh vegetation (Birkett *et al.* 2012). Olfactory areas of the elephant brain are also highly developed (Jacobs *et al.* 2014).
16. The location of other necessary resources, and their spatial and temporal availability, are searched for, monitored, remembered, and recalled. An elephant must drink large amounts of water at least every few days. Thus they must find sources of clean water for drinking. Other resources include: water or mud for cooling/wallowing; minerals - if they cannot be found in vegetation, then areas of salty soil or rock ('salt-licks') must be located; and shelter, such as tree canopies, for relief from the sun during the heat of the day (Boult *et al.* 2019).
17. Elephants' bodies are adapted for covering large distances. The average distance of ground covered per day is a remarkably consistent at ±10km in 24 hours (reviewed in Miller *et al.* 2016). This figure has been documented across very different biomes, from arid deserts, through different semi-arid savanna types, to moist tropical forests (Douglas-Hamilton 1998, Leggett 2009, Wall *et al.* 2013, Wyatt & Eltringham 1974, Merz 1986, Galanti *et al.* 2000). There is, however, a wide range in distance traveled in any given day, from less than 1km when foraging locally to 30km or more of directed movement.
18. To cover this ground, elephants must have long legs, and as longer legs evolved, this has required the simultaneous evolution of foraging anatomy that can reach from ground to mouth. Modification of a prehensile upper lip has led to the development of the trunks seen

today (Shoshani 1998), which are also a highly specialized organ useful not only for feeding, but also for drinking, olfaction, grooming, social signaling, and other motor functions.

19. Studies of foraging elephants (*e.g.* Guy 1976, Short 1981, Lindsay 1994) have documented that a wide range of food items are chosen from hundreds of species of plants, including fruits, buds, leaves, climbing shoots, flowers, growing stems, woody stems and branches, bark, and roots. Because it is abundant and easy to pluck/harvest, grass forms a significant portion of elephants' diets when it is available and abundant. All grass parts - flowers/ seeds, leaves, stems, and roots - are eaten, as and when each is most nutritious at the time of year and growth stage. Each item of food requires specific processing and handling, to select the most nutritious, digestible bits and discard the less digestible parts or those holding soil or other contaminants (Poole & Granli 2009).

Use of trunk, other body parts and tools

20. The musculature of the trunk requires millions of sensory and motor nerve connections, and the trunk is capable of both immense strength and fine control in selecting, picking up, and moving objects in the environment. Elephants use their trunks in extremely dexterous manipulation of food items, analogous to the human hand in its ability to handle objects with delicate control, with the added quality of olfaction (Rasmussen & Munger 1996). As in humans, the evolution of this manipulation organ required accompanying neural development (Onodera & Hicks 1999).

21. Other food preparation techniques include the lifting and moving of branches to reveal lush grass beneath. Such adjustment of the local environment implies a deeper understanding of the localization of plant productivity. Elephants also use other body parts to process food items. Tusks are used in different ways: to cut grass stems, break twigs and branches, carve bark from trees, dig for roots or water. Feet are used in kicking up roots, crushing, or flattening thorns (Poole & Granli 2009).

22. Tools may be fashioned from tree branches and used to pry into bark or dig salty soil from ground sources. Tools in the form of branches serving as 'back scratchers' are also used for grooming, and matts of vegetation may be used as sunshades (Hart *et al.*2001).

Acute awareness of and response to risk factors in the environment

23. Elephants have a keen awareness of risk factors in their environment and they make swift assessments and take appropriate responses. Predation is a key risk. Very young calves are

vulnerable to attack by lions, and when these predators are detected, all family members are cooperatively protective; alerted by a specific alarm call, they will rush to protect the calf and chase away the predator. Older females in particular show rapid and appropriate responses (McComb *et al.* 2011).

24. The primary risk to elephants, however, is human beings. There are two ways that this presents itself: through competition in the way they use land and through killing for the ivory trade (Thouless *et al.* 2016). In land use competition, elephants can themselves come into conflict with human groups who practice both agriculture and livestock husbandry.
25. Elephants are displaced when their previously available wild habitat is converted to agriculture or settlement (Mmbaga *et al.* 2017). When this happens, there is active competition for the use of those fields, particularly when the plants in fields are more attractive to elephants than the vegetation on offer in natural habitats. Elephants make the rational foraging choice of preferring these more nutritious food sources to many of their natural foods that are declining in quality (Osborn 2004). Elephants also come into direct conflict with livestock owners who may also be semi-mobile pastoralists. There is more scope for the sharing of livestock grazing lands, but the key points of conflict are at waterpoints. Again, there is injury and mortality on both sides of this conflict (Kuriyan 2002).
26. There is very rapid learning by elephants of the dangers posed by these potential conflicts. One way that they avoid the conflict is to change their movement and foraging patterns to times of day when people are less active. Typically, this is at night. Elephants' 'raids' into agricultural fields are most common at night, as are visits to livestock waterpoints. If there is a protected area (national park or other designated wildlife protection zone) in the vicinity, elephants will retreat into it during daylight hours and emerge at night into the surrounding lands (Douglas-Hamilton *et al.* 2005). Evidence from radiotracking of elephants shows that they move much more quickly through landscapes they share with humans, from one zone of perceived relative safety to another (Graham *et al.* 2009).
27. Killing of elephants by rural villagers or armed gangs for their ivory is a much greater threat to elephants in the immediate term. Elephants can detect alarm calls from some considerable distance and avoid the area where killings take place (O'Connell-Rodwell & Wood 2007). Again, they seek the refuge provided by protected areas when they are secured by wildlife agencies.
28. There is clear evidence that elephants' response to humans is based on an ability to distinguish the risk posed by different human groups. Playback experiments show that this

is mediated by vocal cues – they can recognize and respond to the sounds of Maasai warriors as distinct from that of women and children, and other ethnic groups, and respond with a flight response to the former but not the latter McComb *et al.* 2014). There is a similar ability to differentiate among types of humans through visual and olfactory cues (Bates *et al.* 2007).

Human-elephant conflict transformed to coexistence through negotiation

29. Many different attempts to mitigate or eliminate human-elephant conflict have been attempted over the past decades. Several of these have involved aggressive deterrence methods or hard barriers. But they have been met with mixed success, in large part because elephants are able to respond and find ways around them. The most effective responses to such conflicts treat elephants as autonomous and sentient beings and work with their biological nature to achieve solutions that promote coexistence rather than conflict (Shaffer *et al.* 2019).
30. One commonly used approach has been to try to scare elephants when they enter fields, with the use of firecrackers, 'thunderflashes', or shots from guns. While these measures may work in the short term, elephants soon discover that the noises are localized and generally nonlethal. Their use, however, does make the elephants more fearful and, thus, potentially more aggressive in their approach to humans (Davies *et al.* 2011).
31. Electric fences are erected by people to keep elephants out of crop fields (e.g. Kioko *et al.* 2008). Elephants, while initially deterred, respond to the hazard of electric shocks by handling the 'hot' wire with non-conducting tusks; they are then able to snap the wire and enter the field. They may also break fences by pushing other elephants into them; both these approaches demonstrate higher cognitive ability and autonomy. But it is the use of branches and logs as tools to break fences that is their most impressive feat. And these techniques, once discovered are rapidly copied and replicated by other elephants, a form of cultural transmission. The use of these fences, which deliver a powerful shock, also make elephants more aggressive and more likely to attack humans in retaliation.
32. More effective fences have been developed that recognize elephants' natural aversion to pungent plant products, such as chillies (Osborn 2002), and to the stinging attacks of honey bees (King *et al.* 2017). Fences using these more natural approaches have the additional advantage of providing a livelihood supplement to the farmers. A fence system that startles elephants with strobe lights, rather than alarming noises, has also proven effective; indeed, several of the described methods are more effective if used without noise-makers (Davies

et al. 2011). Early warning systems, where observers share information about the presence of elephants in an area or near contested sites, have allowed more targeted, preventive approaches for reducing damage to human life, property, and livelihoods (Sugumar *et al.* 2013, Graham *et al.* 2011).

33. As noted above, it is now increasingly recognized by conservation workers that elephants are autonomous and sentient beings, and that coexistence can be achieved by people entering into 'negotiation' with elephants (Shaffer *et al.* 2019). Such programmes have reduced the use of aggressive methods that serve only to escalate the tension between humans and elephants and increase the potential for mutual harm. Instead, they emphasize more positive approaches that work with elephants' perceptions and decision-making, allowing them some autonomy in their movements and feeding choices, while at the same time protecting human interests (e.g. Songhurst *et al.* 2016).

Summary of elephants' intrinsic cognitive qualities and needs based on their use of space

34. Elephants, in their detailed understanding of, and carefully tailored responses to, the challenges of their natural habitats, demonstrate a deep degree of autonomy, sentience, and judgment in their foraging and movement strategies. The strategies for flexible, reactive problem-solving and decision-making make use of elephants' highly developed anatomical, sensory, and cognitive adaptations and abilities, and are fine-tuned over decades of experience in navigation of environments with both predictable and unpredictable elements. The experiences gained over a lifetime are then shared between members of their strongly bonded social groups through example, teaching, and learning. When we recognize that these qualities of elephants are deeply ingrained through millennia of evolutionary selection and adaptation to their particular native ecosystems, we must inevitably move from a position of conflict with and domination towards a coexistence with and appreciation of them as creatures deserving of autonomy to the greatest extent possible in appropriate environmental conditions.

Observations on minimum standards for captive elephants

35. It is instructive to consider some of the so-called "standards" for the husbandry of elephants held in captivity that have been developed and modified over time by different zoo associations and other concerned groups. A discussion of these standards, in comparison to the actual needs of elephants, is presented below.

36. The Standards of the American Association of Zoos and Aquariums (AZA 2022) specify the following minimum acceptable spatial areas for indoor and outdoor enclosures for its member zoos:

- Indoor: Females – 37m^2 (400 square feet) per animal; females with calves – 56m^2 (600 sq.ft.); Males – 56m^2 (600 sq.ft.)
- Outdoor: Females and males – 500 m^2 (5,400 sq.ft. or 0.12 acre).

The AZA standards also specify minimum figures for size and composition of social groups:

- Females: 3 adult females; Males: 2 adult males; Mixed group: 3 adults of either sex.

37. For the purpose of comparison, it is worth considering the current standards of the British and Irish Association of Zoos and Aquariums (BIAZA 2019). They go some way beyond AZA standards, having increased steadily over recent years, and include:

- Indoor: Females – 300m^2 (3,229 square feet) for up to and including 4 females; additional females 80m^2 each (861 sq.ft.); Males – 160m^2 each (1,722 sq.ft.)
- Outdoor: Females and males – 3,000m^2 for any shared space (32,290 sq.ft. or 0.75 acre); this is a minimum and a much larger space for 5 or fewer females and males of 20,000m^2 (4.9 acres) is considered desirable.

The BIAZA Standards minimum figures for size and composition of social groups are:

- Females: 4 compatible adult females; Males: at least 2 adult males of different ages in bachelor groups and with the opportunity of mixing with females.
- All elephants must have the option to get away from other elephants if so desired, through use of space and visual or physical barriers in the enclosure.

38. The "Best Practice" guidelines developed by the Coalition for Captive Elephant Well-Being (Kane *et al.* 2005), which were the result of a meeting attended by elephant husbandry and welfare experts and zoo professionals at Tufts University in 2004, are intended to take greater cognizance of elephant biology. They recommend the following minimum conditions for space:

- Indoor: Females – 60m^2 (645 sq.ft.) per animal, overnight; 185m^2 (1,990 sq.ft.) per animal in winter quarters (i.e. longer term); males – 110 m^2 (1,184 sq.ft.) overnight; 320m^2 (3,444 sq.ft.) winter quarters

- Outdoor: Females and males – Sufficient to allow walking of 10 km (6.2 miles) per day.

and for social groups and companions:

- African savanna elephants: 10 individuals; African forest elephants and Asian elephants: 5 individuals
- Females; related animals and socially bonded animals never separated; Males: separated from their maternal group only by or after sexual maturity (10 years or older); Sub-adult and adult males: separate facilities, including separate night quarters and yards for male elephants, as well as the option of common housing and yards for males and females.

39. The fundamental biological needs of elephants have been established by the extensive scientific research undertaken thus far on the living elephant species in their natural ranges, as described in part above. A comparison between the sets of standards summarised above with each other, and with the evidence from elephant biology, makes it clear that the minimum standards adopted by the AZA for zoos located in the United States are weaker than both those of the United Kingdom and of the Coalition elephant welfare experts, which are themselves also inadequate. Furthermore, they all fall far, far short of fulfilling elephants' requirements for space in both indoor and outdoor facilities (in fact, by several orders of magnitude). The AZA standards for social conditions are equally inadequate. These guidelines appear to be a compromise between the actual needs of elephants and the financial and logistical difficulties faced by AZA member zoos in meeting such requirements, with the balance tilted firmly towards the latter criteria.

Information sources and observations of Nolwazi, Amahle, and Vusmusi at the Fresno Chaffee Zoo

40. Nolwazi and Amahle are female African savannah elephants, aged approximately 27 and 12 years old respectively. Vusmusi is an 18-year-old male African savanna elephant. The three elephants are currently at the Fresno Chaffee Zoo. Their history and observable present state indicate that they have led lives with only limited ability to exercise their autonomy. In relation to the quality of their lives in captivity, I have studied the following information sources:

Satellite imagery

- A satellite image on Google Earth Pro (©2021; version 7.3.4.8248) accessed on 22 February 2022, showing the Fresno Chaffee Zoo elephant exhibit. Zooming and moving around this image allowed visual inspection of the elephant enclosure and its features. I made use of the Ruler tool for measuring linear distances and areas of polygons to estimate the dimensions and size of the main elephant enclosure, the shade screen, and the wading pool.

Documents

- A Word document provided by the NhRP, with publicly available hyperlinks, summarising the location and management of the Fresno Chaffee Zoo and its elephant exhibit, along with the history of Amahle, Nolwazi, Vusmusi, and others that have been held at the Zoo. Available at: https://bit.ly/3tYWvhe.
- A presentation on the discovery and treatment of EEHV infection in two elephants at Fresno Chaffee Zoo (Nodolf & Presley 2020), one of which died (Miss Bets) and one which has survived – so far (Amahle). Available at: https://bit.ly/3vZSzQ6.

Websites

- Facebook post: Video clip "Stomp & Chomp" 2020. Vusmusi feeding on pumpkins. Available at: https://bit.ly/3CKddoz.
- Tiktok posts: 2 clips of Vusmusi. Available at: https://bit.ly/3tQybOC and https://bit.ly/3t9vF73.
- YouTube videos: 2 videos. Available at: https://bit.ly/3Ja0U7x, and https://bit.ly/3JckyzM.
- KSEE24 news item showing the arrival of Amahle and Nolwazi. Available at: https://bit.ly/3i8dZlL
- Zoophoria interview with the designer of the current elephant exhibit (Ponti 2017). Available at: https://bit.ly/3JcHuPq.
- The Elephant Database. A database that attempts to collate information on all elephants held in captivity worldwide. Its accuracy depends on the information supplied by

informants and should be viewed with a healthy critical eye. Available at: https://www.elephant.se/.

Photographs and video clips

- One hundred eighty-two (182) image files (in *.jpg format), showing aspects of the elephant compound, the elephants Amahle and Vusmusi, and the interaction of Vusmusi with zoo staff. Available at: https://bit.ly/3t9ZhB3.
- Twenty-six (26) short video clips (*.MOV format) of varying length (3-31 seconds), showing zoo visitors. Available at: https://bit.ly/3t9ZhB3.

Information on the elephants held at Fresno Chaffee Zoo: present and past

41. Vusmusi was born in captivity at San Diego Zoo (SDZ) Safari Park on 23 February 2004. His mother, Ndula, was taken to SDZ Safari Park from a fenced reserve area within Hlane Royal National Park, Swaziland (now eSwatini) in 2003, when she was pregnant with Vusmusi. The justification given for this transfer was that the reserve in Swaziland was said to be overpopulated and the elephants would have been culled, but this was a fiction that was useful to both the reserve managers and the importing zoos. In reality, the reserve managers simply wished to thin the elephant numbers in the small fenced area where elephants were kept within the much larger Park, and at the same time earn some revenue (Siebert 2019).
42. On 21 August 2015, at the age of 11 years, Vusmusi was taken from his family in San Diego and sent to FCZ. This removal of males from their natal family, so that they are unlikely to ever see them again, is sadly typical of the husbandry of male elephants in North American and European zoos, and completely unlike the natural situation. While at San Diego, Vusmusi repeatedly damaged and broke his tusks "because he likes to hit them on things", an unnatural behavior indicative of stress and/or boredom. Two years after he arrived at FCZ, metal caps were fitted to the ends of his tusks; the damage apparently ceased and the caps remained in place until his tusks grew longer (Acla 2017).
43. Amahle and Nolwazi were born in Hlane National Park in Swaziland (now eSwatini). Nolwazi is Amahle's mother. In 2016, 13 years after the AZA's first import of wild Swaziland elephants—which included Vusmusi's mother—there was a second importation for the same questionable reasons as mentioned by Seibert (2019), and Amahle and Nolwazi were imported to Dallas Zoo, along with 3 other female elephants from the same population. Two years later, on 20 October 2018, Amahle and Nolwazi were separated

from their companions from Swaziland, who remained in Dallas, and they were taken to FCZ to form the nucleus of the Zoo's planned African elephant "family", in the revamped exhibit – see below.

44. The longer history of elephant keeping at FCZ is even more dismal. It began in 1949, and since then there have been only 12 elephants in total: 5 African and 7 Asian. Three Africans remain alive, while two have died. Four of the Asians were moved on to other zoos, while the other 3 died at the zoo. There have been no recorded births of any elephants during the entire period from 1949 to the present day.

45. The first elephant to be kept at FCZ was an Asian female called Nosey (not to be confused with the former circus elephant of the same name who is now at the Tennessee Elephant Sanctuary). She arrived at the zoo in 1949 from an unknown wild source at age 3 and until 1981, spent the next 32 years completely alone. She died in 1993 at the age of 47, when she was euthanized after suffering from arthritis, a typically zoo-caused ailment never seen in the wild. A 2-year old zoo-born male Asian was brought in during 1981 and two wild-born females came in 1983, arriving from a small-scale circus trainer in Sarasota. The male died in 1993, while one of the females was euthanized and the other was moved to the LA Zoo in 2017.

46. Three more Asian elephants spent varying times at FCZ. Two wild-born females arrived at the same time in 2003 from Santa Barbara Zoo, only to be sent back a year later. A wild-born male Asian spent 8 years at Fresno during 1995-2003, having been at 4 other zoos and animal traders before then. He was sent to the entertainment-industry supplier Have Trunk Will Travel in 2003.

47. African elephants did not arrive at the zoo until 2015. Two females were brought in during May 2015 from elephant dealers, the Riddle family. Both have since died:

   - Miss Bets – Born in captivity at Riddles' "Sanctuary", she was brought to FCZ at age 7. She was euthanized in 2019, 4 years after arrival at FCZ after contracting EEHV, which was not detected until after autopsy.
   - Amy – Born in the wild, she was brought from Riddles' to FCZ at the same time as Miss Bets. She was euthanized in 2017 after suffering a torn ligament in her right elbow.

48. The deaths of Amy and Miss Bets are indicative of the poor husbandry record at the Fresno Chaffee Zoo. Miss Bets died of EEHV in 2019. Amahle was also diagnosed with EEHV but was successfully treated after intensive veterinary interventions.

49. With the death of Miss Bets, there is now no adult companion for Nolwazi.

The elephant facilities and their management

50. It is clear to me in my professional opinion that the facilities and their management at the Fresno Chaffee Zoo fall short of fulfilling the physical and psychological needs of Amahle, Nolwazi, and Vusmusi, including the need to exercise their autonomy, in both indoor and outdoor facilities.

51. The elephant exhibit was redesigned and re-built in 2015 under the direction of the Portico Group, who have designed a number of recent zoo exhibits in the US. Information on its features can be found in Ponti (2017). While the architect notes the importance of catering to natural behaviors of wild animals, it is clear that the primary purpose is to "create an experience that was as natural as possible" for zoo visitors, a place that "looks" like a fragment of wild habitat with animals placed within the display. The new elephant exhibit was to replicate a mock African savannah, stocked with elephants that would form a natural-looking "family" of individuals.

52. The location of the zoo is an urban area of mixed use, apparently with light industry and business premises as well as housing. The elephant exhibit is located in the southeast corner of the complex. There are major transportation arteries on all four sides of the zoo grounds, with attendant noise a constant source of auditory disturbance to the elephants. A freeway, the Golden State Highway (State Route 99), runs along the western edge of the grounds, while four-lane roads border the other three sides. These are: N Golden State Boulevard running along the eastern boundary, W Olive Avenue along the northern boundary, and Belmont Avenue on the southern boundary. The N Golden State Boulevard is about 100 yards from the elephant barn, and Belmont Avenue is about 200 yards. There are restaurants and a nightclub located across Belmont Avenue from the elephant enclosure.

53. A double-track railway line, serving both Union Pacific and Burlington Northern & Santa Fe (BNSF) networks, runs along the eastern boundary, about 25 yards to the east of N Golden State Boulevard – 125 yards from the elephant barn – and dozens of trains pass along this line on a daily basis. The local area is thus an entirely unsuitable setting for keeping elephants; it subjects these animals with acute hearing to a sustained sensory onslaught.

54. The indoor and outdoor areas provided to the elephants have been examined with different information sources. Information on the structure of the indoor quarters has been gleaned from an elephant "training" video, available at: https://bit.ly/3KJb3IA. The stalls have flat concrete floors with a thin layer of sand; there is very little cushioning of the hard substrate.

This will be hard on the elephants' feet and joints if they spend any significant time indoors. Water is provided in a square box-like trough outside the bars. The walls are flat concrete, with no exterior views; the doors to the outside area are flat steel sheets. Light comes from above, either from artificial lighting or skylights. The walls reflect all sounds, and it is a noisy place.

55. The size of the elephant living space within the barn is estimated, from examination of the Google Earth image of the barn, to be some 60 x 15 yards, or roughly 8,000ft^2. It is not clear how many stalls there are, at what size, or whether the holding stalls are fixed in size, or the separating bars can be adjusted to increase or decrease the space per stall. The Portico Group interview suggested that there was a separate bull barn, but it was not possible to tell from Google Earth whether there was a separate building for this purpose, or whether it was a subdivision of the main barn building.

56. This barn might be physically spacious enough to "hold" the current number of elephants, but only for a few hours of any given day. It is completely unsuitable for keeping them confined for any more than this brief amount of time; confinement for any longer periods is likely to lead to foot and joint damage from standing on the hard substrate, and psychological damage from the noise and the frustration of prevented choice and movement.

57. The size of the outdoor area is said to be 5 acres according to the statements of zoo employees. It is divided into a front and back yard, and has a large pond with a dividing wall down the middle that separates the elephant exhibit from the adjacent exhibit housing rhinos, giraffes and other species. Examination of the Google Earth satellite image indicates that the various sections available to the elephants have the following dimensions:

- Front yard: 2.35 acres. Long axis = 150 yards; width = 80 yards
- Back yard: 1.1 acres. Long axis = 110 yards; width = 50 yards
- Holding compound/ inspection area next to the barn: 0.2 acres
- Pond to the dividing wall separating it from the adjacent animal enclosure: 0.22 acres

The total area of the front and back yards and holding compound comes to 3.65 acres. Adding the pond area available to the elephants brings it to a total of 3.87 acres. As noted above, the natural ranges of elephants are much, much larger, by several orders of magnitude. The linear distance available for directional walking is little more than 100 yards, a tiny fraction of the miles that elephants cross on a daily basis in natural environments.

58. In addition, elephants need to be able to choose their own social companions, to avoid antagonism and bond in social groups with compatible others. In an area the size of the current zoo compound, there is little opportunity to form and maintain such separate sub-groups.

59. The management of male elephants in zoos, with their distinct social needs and competitive reproductive behaviour, is a particular challenge that has not been successfully addressed and for which solutions remain elusive (Hartley *et al.* 2019, Schmidt & Kappelhof 2019). Allowing males to live separately from females, in mixed age groups of compatible associates, but to associate at times of their own choosing, is one challenge. A second, arguably more profound conundrum, is the need to separate the sexes to avoid unwanted breeding, and with older males, their seasonal state of musth. The latter involves heightened testosterone levels, more aggressive contesting between males and highly motivated seeking of females with whom to mate (Eisenberg *et al.* 1971. Lee *et al.* 2011).

60. The outdoor area and its management are described below:

- Much of the ground cover is grassy, which is apparently kept green by irrigation (Ponti 2017). It provides a soft substrate for walking but is too short to allow significant grazing by elephants. The terrain is flat and unvarying, offering no stimulation or encouragement to explore. A few boulders are stuck in the ground, including in the passage between front and back yards. While this landscaping may look appealing to the visiting public, the features provide no novelty or variety to the elephants themselves. They do nothing to alleviate the tedium of these sterile surroundings.

- There is some shade provided by trees that were allowed to remain in the compound. The trunks of the trees are protected from the elephants by wire mesh. There are also palm trees, whose bark is not damaged. The trees offer some limited relief from the sun, which is said to be hot during summers in Fresno. As noted, the landscaping appears to be designed more to project a feeling to visitors of a quasi-natural environment, rather than providing anything meaningful to the elephants.

- There are two water features, one large and one smaller. Neither appears deep enough to support elephants' body weight, to take any weight off their feet. An artificial waterfall is another feature of more interest to visitors than to the elephants, as it will have quickly become a part of everyday life. The most that can be said is it provides a source of drinking water.

61. In combination with the bleak appearance and size limitation of the enclosure, there are several deficiencies in its management, including the feeding regime. It appears that oat hay, grain, vegetables, alfalfa cubes, and occasionally woody browse are scattered on the ground or suspended from hooks or baskets. There are also small niches in the mock baobab tree and wall next to the artificial waterfall where food can be hidden for the elephants to find. None of these "enrichment" efforts would provide much stimulation to the intellect of elephants when compared to natural foraging challenges; elephants would soon grow accustomed to the predictable routine of these food provision modalities. None of this so-called "enrichment" would be necessary, of course, in a natural habitat, or an appropriate sanctuary, with extensive areas of native vegetation.

62. It appears that the elephants are moved into their stalls when zoo staff go off duty, spending at least half their days and probably longer in the close confines of the barn. On cold days, they are kept in the barn all day. As elephants in the wild are actively moving for up to 18 hours of every 24-hour period, this involuntary confinement is both physically and psychologically harmful. It also removes agency from the elephants, depriving them of the basic need to make their own decisions on how and where they spend their time.

63. The handling modality of the elephants by keepers appears to be protected contact, with the keepers giving demonstration shows to the public. Such performance in front of a noisy public is undoubtedly disturbing to the elephants. The behavioral repertoire of the three elephants in the Fresno Chaffee Zoo is extremely limited, widely divergent from that of free-ranging elephants, and indicative of the pathology of zoo husbandry. Observations from the video clips and photographs have informed this conclusion. When the elephants are not simply standing and feeding, they can be seen to walk between the front and back yards on the same path every time. There is no variety in their lives, no challenge to employ their mental capacity for exploration, spatial memory, or problem-solving. There is no opportunity to employ their wide range of vocalisations, to communicate and interact with a range of other elephants over distance.

64. The best that could be said for the current elephants is that they do not appear to have personality conflicts that resulted in aggressive actions between them. It is not clear how much social interaction there is between Vusmusi and the two females.

65. It is now accepted that elephants experience permanent damage to their brains as a result of the trauma endured in impoverished environments (Jacobs *et al.* 2021). However it is less clear whether this impact is more damaging when the animal has had a longer period of independent, nature-based living before the deprivation; whether the trauma occurs

earlier or later in their lives. Most of the elephants currently held in zoos were either born in captivity, or were taken from the wild at a very early age. The two female elephants at FCZ, Nolwazi and Amahle, were removed from the wild at ages 21 and 6 respectively, and they spent more than half their lives in natural surroundings – for Nolwazi, over three quarters of her life.

66. Drawing from my own experience and from consultation with other elephant experts (J. Poole & B. Jacobs, personal communication), it remains unclear whether the transition to captivity would be more traumatic for a young naïve elephant, or an older animal who has had relatively little experience with captive conditions, and a longer memory of rich natural environments. On balance, both Poole and Jacobs consider it more likely that a younger elephant would suffer more profound damage than an older animal, because their fundamental brain structures are still developing and they would then have a longer period of reinforcing the damage in the impoverished environment of a zoo. An elephant born in captivity, such as Vusmusi, would suffer these impacts from birth. However, an older elephant coming to captivity will suffer as well, with depression-like symptoms, frustration and the effects of chronic stress, as they continually compare the current captive conditions with the freedom they had known. This could certainly be very debilitating.

Conclusions

67. On the basis of my review of the sources of evidence I have studied and my analysis in relation to my own extensive professional knowledge and understanding of elephants' undeniable biological needs, I conclude that Nolwazi, Amahle, and Vusmusi are not being kept in anything close to a satisfactory environment that is consistent with an acceptable life for an elephant.

68. The life of these three elephants at Fresno Chaffee Zoo is nothing but a succession of boring and frustrating days, damaging to their bodies and minds, and punctuated only by interaction with their keepers. Their physical and psychological health has been severely compromised by the sustained deprivation of their autonomy and freedom of movement. They spend at least half, if not more, of each day in a barn with very little cushioning for their feet and joints. When allowed outside, they are unable to walk more than 100 yards in any direction, they have limited shade from the sun, and their artificial water features are not deep enough to allow proper bathing. The elephants receive predictable enrichment activities, are unable to communicate over large distances, and their acute hearing is

bombarded by constant auditory disturbances from major transportation arteries on all four sides of their enclosure.

69. A return to the wild is not a realistic option for these elephants, particularly Vusmusi who has spent a lifetime in captivity, as elephants lose knowledge of appropriate foraging and social behavior the longer they spend away from natural ecosystems. However, elephants are extremely intelligent and adaptable animals, and Nolwazi, Amahle, and Vusmusi could still lead something approaching a normal life if they were removed from the zoo and relocated to a suitable sanctuary of appropriate habitat.

70. My professional conclusions and recommendations are that:

- Nolwazi, Amahle and Vusmusi should be moved, as soon as possible, to a suitable sanctuary in North America, according to practice that is well-established by sanctuary professionals. Even though Vusmusi in particular has spent his entire life since birth in the barren confines of zoo compounds, and his behavior has been completely controlled by his human handlers, this is no obstacle to his developing a successful and fulfilling life in the favourable ecological and social surroundings of a large, appropriate habitat area such as a sanctuary.
- It is possible that Nolwazi and Amahle might adapt more quickly to a natural environment with interesting terrain and living vegetation, since they have lived for only a few years in the artificial zoo environment. If a return to a sanctuary natural ecosystem in Africa (TAP 2022) was financially feasible, this would be an even better option, particularly for Amahle and Nolwazi.
- Fresno Chaffee Zoo should never be used again to keep elephants captive, for public display or for any other purpose.

I, William Keith Lindsay, PhD, certify under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Keith Lindsay

William Keith Lindsay PhD

Dated: MARCH 17, 2022

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Exhibit A

Curriculum Vitae

Name	William Keith LINDSAY
Profession	Natural Resources Advisor/ Monitoring & Evaluation Expert
Date of Birth	5 November 1952
Nationality	Canadian / British (dual citizenship)

Key experience

Keith Lindsay is a natural resources advisor/ monitoring & evaluation expert with over 40 years' professional experience in Southeast Asia, Africa, Latin America, the Caribbean, North America and Europe, in planning, conducting and evaluating field projects and in senior administrative and leadership roles. He was a senior staff member at the Oxford-based consultancy, The Environment & Development Group (EDG), during 1994-2013. He undertook a variety of long- and short-term consultancy missions and project work, both independently and with EDG, in project/programme monitoring and evaluation, environmental assessment and land use planning, community-based natural resource management, protected area monitoring and management, and biodiversity research and conservation. Since 2013, Dr Lindsay has been an independent consultant on assignments for international donor agencies and NGOs in Africa and Asia.

Dr Lindsay has been actively involved in research on the ecology of African elephants with the Amboseli Elephant Research Project of southern Kenya since 1977, focussing on the relationships between habitat conditions, foraging behaviour and population dynamics. His work continues on policy support for elephant conservation, international trade in ivory and live elephants under CITES, and efforts to improve their well-being in both the wild and captivity.

Education

Ph.D. Zoology, 1995, University of Cambridge
M.Sc. Zoology, 1982, University of British Columbia, Vancouver, Canada
B.Sc. (Hons.) Zoology, 1974, University of British Columbia, Vancouver, Canada

Summary of selected employment record

- Myanmar: Monitoring & evaluation of Human-Elephant Coexistence project (Elephant Family, 2019-present)
- UK/ Europe: Support to African Elephant Coalition, CITES CoP18 & Intersessional Committees (Fondation Franz Weber, 2017-present)
- Tanzania: Terminal Evaluation Kilombero wetlands conservation (Enabel - Belgium, 2018)
- UK/ Brussels: Revision of project design for Sustainable Wildlife Management Project (EU/FAO, 2018)
- UK: CITES Information Document on live trade in African elephants (Humane Society International, 2017)
- Japan: Survey and report on solitary elephants in Japan's zoos (Elephants in Japan/ Zoocheck, 2017)
- Kenya: Guidelines for transboundary conservation projects in Africa (European Commission, 2017)
- Mongolia: Results Framework, Forest conservation project (FAO, 2015–16)
- UK/ South Africa: Support to African Elephant Coalition, CITES CoP17 (FFW, 2015-16)
- Tanzania: Mid-term Evaluation CBNRM project suite (EC, 2015–16)
- Tanzania: MTE southern Tanzania parks (SPANEST) project (UNDP/GEF, 2015)
- Thailand: MTE Sustainable management of biodiversity (SMBT) project (UNDP/GEF, 2014–15)
- Zambia: Benefit sharing study in Zambia's Game Management Areas (UNDP, 2014–15)
- Cambodia: Revision of MTE of Sustainable Forest Management project (UNDP/GEF, 2014)
- UK/ Global: Revision of Monitoring & Reporting Framework for UNREDD, 2011-15 (FAO, 2013-14)
- Botswana: Terminal Evaluation Improved Sustainability of Protected Areas project (UNDP/GEF, 2013)
- UK/ Central Africa: Gaps & options for elephant conservation in Central Africa (CMS/UNEP, 2011)
- Kenya: National Conservation & Management Strategy for Elephants (Kenya Wildlife Service, 2007–08)
- South Africa: Contributing author SA Elephant Assessment (CSIR, 2007)
- South Africa: Corresponding member Science Round Table (Dept. Env. Affairs & Tourism, 2005–06)
- Cambodia: MTE Conservation of Cardamom Mountains forest (UNDP/GEF, 2004-05)
- UK/ Chile: Technical support at CITES CoP12 (Care for the Wild International, 2002, 2004)
- Mali: Initiating Measures to Protect Gourma Elephants (US Dept. of State/ USFWS, 2003–2005)
- Jordan: Range ecologist (IFAD, July 1995)
- Botswana: Support to stakeholders' conference: African Elephant in the Context of CITES (EU, 1994)
- Botswana: Wildlife Ecologist/ Elephant policy, Department of Wildlife & National Parks (EU, 1988-92)
- Kenya/ UK: Research & analysis, PhD - Amboseli elephant ecology, University of Cambridge (1982-87)
- Kenya/ Canada: MSc - Amboseli elephant ecology, University of British Columbia, (1977-82)
- Kenya: Field ecologist Amboseli National Park (New York Zoological Society, 1977-79, 1983)

Publications

Scientific publications and technical reports

Lindsay, K., Chase, M., Landen, K. & Nowak, K. (2017) The shared nature of Africa's elephants. *Biological Conservation*, 215:260-267.

Lindsay, K. (2017) *Solitary elephants in Japan.* Report to Elephants in Japan and Zoocheck Inc.. 37pp. + Annexes.

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Lindsay, K., Kiiru, W. & Sitati, N. (2008) *Kenya National Elephant Conservation and Management Strategy – Draft.* Report to Kenya Wildlife Service, Government of the Republic of Kenya, Nairobi.

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Western, D. & **W.K. Lindsay** (1984) Seasonal herd dynamics of a savanna elephant population. *African Journal of Ecology*, 22:229-244.

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Lindsay, K.. Cruise, A. & Awori, R. (2022) Namibia admits to questionable export of elephants overseas. *Journal of African Elephants*, 12th March 2022. https://africanelephantjournal.com/namibia-admits-to-questionable-export-of-elephants-overseas/

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Lindsay, K. (2009) Zoo's elephants need room to roam. *NC-Greensboro News and Record*, Sunday, October 25, 2009. https://greensboro.com/editorial/zoo-s-elephants-need-more-room-to-roam/article_1739b36d-

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Lindsay, W.K. (1986) Elephant problems and human attitudes. *Swara*, 9(3):24-27.
Lindsay, W.K. (1983) Elephants, trees and people. *Wildlife News*, 18:8-11

Power Point presentations:

2018: *Elephants in Japan.* PAWS International Captive Wildlife Conference 2018, 9-11 November 2018. Performing Animal Welfare Society, Los Angeles.

2018: *Elephant conservation: International trade in live African elephants: an update.* PAWS International Captive Wildlife Conference 2018, 9-11 November 2018. Performing Animal Welfare Society, Los Angeles.

2018: *The lives of elephants in the wild and in captivity.* 9th International Symposium on Primatology and Wildlife Science, 3-5 March, 2018. Primate Research Institute, Kyoto University. During March 2018, the presentation was also given to meetings for: the City Council of Kofu: a group of zoo keepers and Directors including the Executive Officer of the Japanese Association of Zoos and Aquariums in Morioka; a public audience in Tokyo.

2016: *Elephant conservation: International trade in ivory and living elephants.* PAWS International Captive Wildlife Conference 2016, 11-13 November 2016. Performing Animal Welfare Society, San Andreas.

2014: *Elephants, captivity and conservation.* PAWS International Captive Wildlife Conference 2014, 8-10 November 2014. Performing Animal Welfare Society, Los Angeles.

2012: *An update from Amboseli Elephant Research Project: Reliable knowledge about elephant biology and conservation.* PAWS Summit for the Elephants 2012, 28-30 March 2012. Performing Animal Welfare Society and Oakland Zoo, Oakland.

2012: *Foraging and ranging of wild African elephants: implications for captive management.* PAWS Summit for the Elephants 2012, 28-30 March 2012. Performing Animal Welfare Society and Oakland Zoo.

2011: *Elephant conservation: Living in the real world.* Toronto Elephant Summit: Elephant challenges: Climate, care and costs. 16 April 2011. Toronto City Council and Toronto Zoo.

2006: *Elephant needs in captivity: Learning from nature.* Chicago City Council and Lincoln Park Zoo, 23 February 2006, Chicago.

Exhibit B

Fresno Chaffee Zoo

The Fresno Chaffee Zoo is currently holding captive 2 female African elephants and 1 male African elephant.

- Nolwazi is an approximately 27-year-old wild born female African elephant. She was born in Hlane National Park, imported to the Dallas Zoo from Swaziland in 2016, and transferred to the Fresno Chaffee Zoo in 2018. Her daughter is Amahle, who was imported from Swaziland with her and lives with her at the Fresno Chaffee Zoo.
- Amahle is an approximately 12-year-old wild born female African elephant. She was born in Hlane National Park, imported to the Dallas Zoo from Swaziland in 2016, and transferred to the Fresno Chaffee Zoo in 2018. In 2019, Amahle was diagnosed with EEHV. Here is a presentation on the Fresno Chaffee Zoo's treatment of Amahle, including training her to be restrained (pg. 57-78).
- Vusmusi, also known as Moose or Musi, is a 17-year-old male captive born African elephant. He was born in 2004 at the San Diego Zoo Safari Park. His mother is Ndulamitsi, she was pregnant with Vusmusi when she was imported to the US from Swaziland and his father is unknown. He was transferred from the San Diego Zoo Safari Park to the Fresno Chaffee Zoo in 2015. In 2017, after breaking and cracking his tusks numerous times, the zoo had metal covers made for them.

There have been 3 elephant deaths at the Fresno Chaffee Zoo since 2017

- Amy, a 30-year-old wild-born African elephant, died in 2017 after being euthanized due to a torn ligament in her leg which impacted her mobility. She died two years after arriving at the Fresno Chaffee Zoo. Her daughter was Miss Bets, who also died at the Fresno Chaffee Zoo.
- Miss Bets, an 11-year-old captive-born African elephant, died in 2019 of EEHV. She died four years after arriving at the Fresno Chaffee Zoo.
- Kara, a 42-year-old wild-born Asian elephant, died in 2017 when she was euthanized due to pain from chronic osteoarthritis. She had lived at the Fresno Chaffee Zoo for 34 years.

The Elephant Exhibit

The Fresno Chaffee Zoo remodeled its elephant exhibit in 2015 and it is one of the exhibits that comprises the zoo's 13-acre African Adventure section of the zoo.

The elephant exhibit is approximately 4 acres, although the usable space for the elephants appears closer to 3 acres. When it opened, the then zoo director said: "Elephants also will live in a typical matriarchal setting as they do in Africa…the zoo will start with three and could build up to six or eight on the 4-acre portion of the expansion." When the zoo separated Nolwazi and Amahle from the Swaziland herd at the Dallas Zoo and brought them to Fresno, they said it was for breeding purposes. They also touted that Amahle would have a similarly aged female elephant to socialize with (Miss Bets); however Miss Bets died less than six months after Amahle's arrival.

The outdoor yard includes two water features, a pond/pool and a waterfall that is at times turned off. There is a fake rock wall that is a part of the waterfall feature that has holes in it which the elephants can reach in and grab food from. There is a pond-like water feature which separates the elephants from the rhinos, it is unclear how they prevent the elephants from crossing over as there is no visible barrier. The elephants are able to see the rhinos and other species from their exhibit. There is a significant amount of traffic and construction noise that can be heard at the elephant exhibit. The zoo is right off the SR-99 freeway and a new exhibit, "Kingdoms of Asia," is being built very close to the elephants.

The primary substrate of the exhibit is natural grass and there are different types of trees which the elephants are able to touch. Some trees appear to be wrapped in wire. The yard is separated into a front a back yard, with a gated walkway that the elephants can pass through to access each yard. There appears to be access to the barn from both sections of the yard. There is also a small pen that the elephants are put in for public training sessions. The pen is at the furthest part of the yard away from the barn.

In addition to the rock wall, there is at least one feeding station, a pole that has hay hanging from it. There appeared to be some hay scattered near the pathway Vusmusi was walking on the day I visited. The elephants' diet includes grass, oat hay, grain, vegetables, and alfalfa cubes. During my visit, Vusmusi spent most of his time at the feeding wall and walking the same path between the front and back sections of the yard. He was the only elephant out during the 90 minutes I observed the exhibit. When it is too cold outside, the elephants are kept in the barn.

Photos and Videos

Photos and Videos from NhRP Visit to Zoo

Elephant "Stomp and Chomp" (2020)

Video of Training Session Inside the Elephant Barn

Video from Oct. 2021 Showing all 3 elephants in yard

Video from zoo visitor from Sept. 2021 (elephant are in clip from 1:50 to 3:20)

TikTok of Vusmusi tearing branch from tree

TikTok "Meet Musi"

TikTok of Nolwazi and Amahle in barn, Amahle appears to be engaging in stereotypic behavior

Exhibit 6

COUNTRY OF NORWAY)
)
PROVINCE OF VESTFOLD-TELEMARK) ss :
)
MUNICIPALITY OF SANDEFJORD)

Affidavit of Joyce Poole

Joyce Poole being duly sworn, deposes and says:

Introduction and Qualifications

1. My name is Joyce Poole. I graduated with a Bachelor of Art with High Honors in Biological Sciences from Smith College in 1979. I received my PhD from the University of Cambridge in 1982 from the Sub-Department for Animal Behaviour, under the supervision of Professor Robert Hinde. I completed a Postdoctoral Research Fellowship from 1984-1988 at Princeton University under the guidance of Professor Daniel Rubenstein. I reside and work in Sandefjord, Norway, and in Il Masin, Kajiado County, Kenya. I run elephant behavior and conservation projects in Maasai Mara ecosystem, Kenya, and in Gorongosa National Park, Mozambique.

2. I submit this Affidavit in support of the Petitioner, The Nonhuman Rights Project, Inc., for a writ of habeas corpus on behalf of the captive elephants named above. I have personal knowledge of the facts to which I attest, and I am not a party to this proceeding. I have received no compensation for preparing this Affidavit and am not employed by any party to this proceeding.

3. I have studied wild elephants in Africa and worked toward their conservation and welfare for more than 40 years. My research interests are focused on social and reproductive behavior, acoustic and gestural communication, cognitive science, decision-making, and conservation. I am currently Co-Director of ElephantVoices, a California 501(c)(3) non-profit organization I co-founded in 2002, which aims to inspire wonder in the intelligence, complexity and voices of elephants, and to secure a kinder future for them. We advance the study of elephant cognition, communication and social behavior, and promote the scientifically sound and ethical management and care of elephants through research, conservation, advocacy, and the sharing of knowledge. Specifically, I direct the research, conservation, and welfare work for ElephantVoices.

4. In addition to co-directing ElephantVoices, I have worked and conducted research for a number of organizations, including: (1) as the Research Director of the Amboseli Elephant Research Project from 2002-2007, for the Amboseli Trust for Elephants, where I oversaw the elephant monitoring, collaborative research projects, and training programs for the then 3 decades-long study of elephants; (2) as a scientific advisor for Discovery in July, 1996 and July, 1997, for the IMAX production *Africa's Elephant Kingdom*; (3) as a Consultant for Richard Leakey & Associates from 1994-1997 performing training, lecturing, and advising for wildlife documentaries; (4) as an Author from 1994-1995 for *Coming of Age with Elephants* (Hyperion Press, 1996; Hodder & Stoughton, 1996); (5) as a Coordinator of the Elephant Program for the Kenya Wildlife Service from 1991-1994, setting and implementing Kenya's elephant conservation and management policy, supervising management-oriented research, reconciling land use and other conflicts between elephants and people, and building local expertise; (6) as a Consultant for the World Bank, from 1990-1991, developing Pre-Project Facility by drafting the Elephant Conservation and Management Policy and Research Policy Framework and Investment Program for the Kenya Wildlife Service; (7) as a Consultant for the International Union for the Conservation of Nature, in 1990, compiling an overview of elephant conservation in Eastern Africa for the Paris Donors Conference; (8) as a Consultant for the Tanzanian Wildlife Department in 1989, drafting a successful proposal to the Convention on Trade in Endangered Species to up list the African elephant to Appendix I of the Convention; (9) as a Consultant to the World Wildlife Fund in 1989, engaging in discussions with Japanese and Chinese government officials and ivory carvers regarding detrimental impacts of the ivory trade on elephant survival; (10) as a Researcher for the African Wildlife Foundation in 1989, assembling data on effects of poaching on East African elephant populations; and (11) as a Researcher for the Amboseli Elephant Research Project from 1975-1980.

5. I have conducted field work as part of my scientific research in multiple sites in multiple countries over my career, including: (1) elephant monitoring, conservation and research as part of the Gorongosa Restoration Project in Mozambique, ongoing since 2011; (2) elephant monitoring and conservation project in the Maasai Mara ecosystem in Kenya, ongoing since 2010; (3) the initiation of Asian elephant monitoring and conservation in the Minneriya-Kaudulla National Parks in Sri Lanka in 2008; (4) the study of elephant communication, cognition, and social behavior, conducting playback

experiments, and recording elephant vocalizations and behavior in the Amboseli National Park in Kenya, 1998-2009; (5) recording elephant vocalizations and behavior in Maasai Mara National Park, Tsavo National Park, and Laikipia District in Kenya in 1998; (6) assessing the numbers and habitat use of elephants in West Kilimanjaro, Tanzania in 1997; (7) overseeing numerous elephant surveys and studies of elephants carried out under my direction by the Kenya Wildlife Service Elephant Program in Kenya from 1990-1994; (8) studying elephant vocal and olfactory communication via vocal, visual, and chemical signaling and assessment between musth males in Amboseli National Park, Kenya from 1984-1990; (9) studying the contextual use of very low frequency calls by elephants and assessing the effects of poaching on the age structure and social and reproductive patterns of elephant populations in Amboseli, Tsavo, Queen Elizabeth, and Mikumi National Parks in Kenya, Uganda, and Tanzania in 1989; (10) Focal animal sampling musth and male-male competition among elephants in Amboseli National Park, Kenya from 1980-1982; and (11) participating in Cynthia Moss' long-term studies of elephants in Amboseli National Park, Kenya from 1975-1979.

6. Over the course of my career, I have received several awards and honors related to my research, including: (1) the Horace Dutton Taft Alumni Medal awarded by the Taft School in 2017, for "going beyond the call of duty in service"; (2) an Outstanding Lifetime Achievement Award from the Jackson Hole Wildlife Film Festival in 2015; (3) a Certificate of Recognition from the California State Legislature and Assembly in 2007, for "tireless efforts in educating people on elephant captivity"; (4) the Smith College Medal in 1996 for elephant research and conservation work "exemplifying the true purpose of a liberal arts education"; (5) an F32 National Research Service Award (NRSA) Individual Postdoctoral Fellowship from the National Institute of Mental Health from 1985-1988; (6) a Research Fellowship from the Harry Frank Guggenheim Foundation in 1984; (7) a Research Fellowship from the New York Zoological Society from 1980-1981; (8) a Graduate Study Fellowship from Smith College in 1981; (9) the Sarah. W. Wilder and Sarah W. Whipple Fellowship from 1979-1980; (10) Sigma Xi from 1979-1980; and (11) the A. Brazier Howell Award in 1979 for my paper on *musth* in African elephants, presented at the 1979 American Society of Mammalogists meetings.

7. I am affiliated with a number of professional organizations and hold several board and advisory memberships, including: (1) member of the Board for the Global Sanctuary for Elephants, from 2014-present; (2) member of the Advisory Board for the Kimmela Center for Animal Advocacy, from 2013-present; (3) member of the Scientific Advisory Board for Elephant Aid International, from 2010-present; (4) member of the Alliance for Captive Elephants, in 2010; (5) member of the Board of Directors for ElephantVoices, from 2008-present; (6) member of Ethologists for the Ethical Treatment of Animals, from 2002-present; (7) member of the Scientific Advisory Committee for the Amboseli Elephant Research Project, from 2002-present; (8) member of the Science Advisory Board for the Captive Elephant Management Coalition, from 1988-2001; (9) member of the Panel of Experts for the Species Survival Network, in 2004; (10) Trustee for the Amboseli Trust for Elephants, from 2002-2011; and (11) member of the African Elephant Specialist Group, as part of the Species Survival Commission for the IUCN, from 1988-2001.

8. I have written two books concerning my work with elephants: (1) *Elephants* (1997, Colin Baxter Photography, Grantown-on-Spey, Scotland), and (2) *Coming of Age with Elephants* (1996, Hyperion Press, New York; 1996, Hodder & Stoughton, London).

9. I have published 39 peer-reviewed scientific articles over my career. These articles have been published in many of the world's premier scientific journals, including: *Nature, Science, Frontiers in Zoology*, *Biology Letters, Proceedings of the Royal Society B, Immunogenetics, PLoS ONE, The Ecologist, Animal Behaviour, Oryx, Behavioral Ecology and Sociobiology, Behavior, Journal of Reproduction and Fertility, Molecular Ecology, Journal of Consciousness Studies, Current Biology, Journal of the Acoustical Society of America, Etica and Animali,* and *Conservation Biology*. Specific topics of these publications include: Persistence of effects of social disruption in elephants decades after culling; Persistence of early life experiences 40 decades later on survival and success among African elephants; Poaching and wildlife conservation; Leadership in elephants: The adaptive value of age; Elephants, ivory, and trade; Simulated oestrus behavior in African elephants; Major histocompatibility complex variation and evolution in two genera of elephants; Fine-scaled population genetic structure in a fission-fusion society; Do elephants show empathy?; Elephant cognition; Behavioural inbreeding avoidance in wild African elephants; African elephants have expectations about locations of out-of-sight family members; Elephants

can classify human ethnic groups by odour and garment colour; Age, musth, and paternity success in wild male African elephants; Wild African elephants discriminate between familiar and unfamiliar conspecific seismic alarm calls; Social trauma early in life can affect physiology, behavior, and culture of animals and humans over generations; Elephants are capable of vocal learning; Older bull elephants control young males; African elephants assess acoustic signals; The Aggressive state of musth in African elephants; Mate guarding, reproductive success, and female choice in African elephants; Rutting behavior in African elephants; and Musth in the African elephant. Additionally, my research has been published in six non-peer reviewed publications.

10. My scientific work has also been published as chapters in several peer-refereed books, including *Mammals of Africa* (2013, Academic Press), *The Amboseli Elephants: A Long-Term Perspective on a Long-Lived Mammal* (2011, University of Chicago Press), *An Elephant in the Room: The Science and Well Being of Elephants in Captivity* (2008, Tufts University Cummings School of Veterinary Medicine's Center for Animals and Public Policy), *Elephants and Ethics: Toward a morality of Co-existence* (2003, Johns Hopkins University Press), *Behavioral Ecology and Conservation Biology* (1998, Oxford University Press), *The Differences Between the Sexes* (1994, Cambridge University Press), *Primate Social Relationships* (1983. Blackwell Scientific Publications). In addition to these peer-reviewed book chapters, my scientific work has been published in three additional book chapters, which were not refereed.

11. My scientific research has additionally been published in several peer-reviewed symposia proceedings, including "Vocal imitation in African savannah elephants (Loxodonta Africana)" in *Razprave IV* (2006, Rezreda Sazu XLVII-3); "Conservation biology: The ecology and genetics of endangered species," in *Genes in Ecology* (1991, Blackwell Scientific Publications, London, The 33rd Symposium of the British Ecological Society); "Elephant mate searching: Group dynamics and vocal and olfactory communication" and in *The Biology of Large African Mammals in their Environment* (1989, Clarendon Press, Oxford, Proceedings of the Symposium of the Zoological Society of London.

12. In addition to my peer-reviewed scientific publications, I have also published numerous technical reports for various foundations, working groups, and organizations. These reports include: (1) a series of reports relating to our work on elephants in the

Maasai Mara from 2012-2015; (2) a series of reports relating to our work on elephants in Gorongosa National Park from 2012-2015 (3) a 2010 critique of "The status of African elephants (*Loxodonta africana*) in the 2008 IUCN Red List of Threatened Species"; (4) a 1997 Typescript Report describing a survey of elephants and other wildlife of the West Kilimanjaro Basin, Tanzania; (5) a 1996 report in "Decentralization and Biodiversity Conservation" as part of a World Bank Symposium; (6) a 1994 report in the *Proceedings of the 2nd International Conference on Advances in Reproductive Research in Man and Animals* about the Logistical and ethical considerations in the management of elephant populations through fertility regulation; (7) a 1993 report detailing Kenya's Initiatives in Elephant Fertility Regulation and Population Control Techniques in *Pachyderm*; (8) a 1992 survey of the Shimba Hills elephant population for the Elephant Programme, Kenya Wildlife Service; (9) a 1992 report on the Status of Kenya's Elephants by the Kenya Wildlife Service and the Department of Resource Surveys and Remote Sensing; (10) a 1991 Elephant Conservation Plan for the Kenya Wildlife Service, Ministry of Tourism and Wildlife; (11) a 1990 Regional Overview of Elephant Conservation in Eastern Africa, in *Regional Perspectives and Situation Regarding Elephant Conservation and the Ivory Trade,* produced for the Paris Donors Meeting of the IUCN; (12) a 1990 report on Elephant Conservation and Management in *The Zebra Book, Policy Framework and Five-year Investment Programme* for the Kenya Wildlife Service; and (13) a 1989 report on The effects of poaching on the age structures and social and reproductive patterns of selected East African elephant populations in *The Ivory Trade and the Future of the African Elephant* for the 7th CITES Conference of the Parties.

13. In addition to my scientific publications, I have published 17 popular articles in more general publications, including: National Geographic's blog *A Voice for Elephants*, *Basecamp Explorer AS, Swara, Care for the Wild News, Sotokoto, Wildlife News, Komba, Animal Kingdom,* and *Natural History.*

14. I have been an invited speaker at international meetings and symposia throughout the world, including: (1) Keynote, Jackson Hole Wildlife Film Festival, 2015; (2) National Geographic Retreat, International Council of Advisors in Stockholm, Sweden, 2014; (3) Chinese Zoo Directors Meeting on Animal Welfare, in Shenzhen, China in 2013; (4) the Royal Geographical Society, Hong Kong, China in 2013; (5) the Explorer's Club in New York, 2013; (6) the Explorer's Symposium for National

Geographic, in Washington, DC in 2012; (7) "Nature's great masterpiece: Stories of Elephants," the 2012 Sabine Distinguished Lecture in Psychology, Colorado College; (8) Panel discussion for the National Geographic Society, Washington DC in 2008; (9) Seminar on Language Evolution and Cognition held by Communication Research Centre, Northumbria University & Language Evolution and Computation Research Unit, University of Edinburgh, Scotland in 2007; (10) Public lecture at the Explorer's Club, New York in 2007; (11) lecture on communication, behavior, and social life among elephants, for the Science Museums of the la Caixa Foundation, Barcelona, Spain in 2006; (12) speaker in series of lectures on Animal Communication, for the Science Museums of the la Caixa Foundation, in Madrid, Spain in 2006; and (13) lecture on Animal Cognition and Communication, at the Tufts Center for Animals and Public Policy in Boston in 1999.

15. In addition to my scientific research, I have also focused extensively throughout my career on public education and outreach. I have utilized many different media formats in pursuit of this goal. I currently maintain several web channels, including: (1) www.ElephantVoices.org - about elephant social behavior, communication and welfare; (2) www.facebook.com/elephantvoices; (3) www.Intagram.com/elephantvoices; (4) www.twitter.com/elephantvoices; (5) www.vimeo.com/elephantvoices; (6) www.YouTube.com/elephantvoices; (7) www.soundcloud.com/elephantvoices; and (8) http://www.theelephantcharter.info – The Elephant Charter, co-written in 2008 by Joyce Poole, Cynthia Moss, Raman Sukumar, Andrea Turkalo and Katy Payne. I also currently maintain three online databases: (1) The Mara Elephants Who's Who & Whereabouts Database (on www.elephantvoices.org/maraelephants-whos-who.html); (2) The Gorongosa Who's Who & Whereabouts (www.elephantvoices.org/gorongosaelephants), which is available for scientists working in Gorongosa National Park; and (3) The Elephant Ethogram: A Library of African Elephant Behavior (on The Elephant Ethogram), which documents close to 500 behaviors with written descriptions and some 2,300 video clips and will soon be available for the public. Once online, The Elephant Ethogram will replace the links in this affidavit to ElephantVoices Elephant Gestures Database.

16. My research concerning elephant social behavior and communication, as well as my conservation work, has been featured in a number of printed articles, including publications such as *Readers' Digest, Scientific American, Science, National*

Geographic Kids, National Geographic Magazine, National Geographic Adventure, New York Times Magazine, National Geographic Explorer, LA Times, Highlights for Children, Scholastic, The New York Times, Science Times, Science, Science News, Spektrumdirekt, National Geographic News, Kyodo News Washington Bureau, Daily Telegraph, and The Guardian. Additionally, my life and work have been featured in several books, including: (1) Jodi Picoult's novel Leaving Time; (2) Martin Meredith's 2001 *Africa's Elephant,* a biography, and (3) Doug Chadwick's 1992 *Fate of the Elephant*. My work was also highlighted by Doug Chadwick in his 1992 feature article for National Geographic Magazine. My elephant recordings have featured in (1) Paul Winter's Summer Solstice Concert in New York Cathedral, in 2013; (2) in the Emmy award winning work by Paul Winter, Miho in 2010; (3) in Avatar in 2009; (4) in Pulse of the Planet.

17. I have been interviewed and my research has been featured on a number of radio programs, including: (1) a 2012 Sam Litzinger interview on The Animal House/NPR (WAMU 88.5); (2) Elephant welfare views featured on WBUR's Inside Out Documentary on American Zoos with Diane Toomey in 2009; (3) Elephant communication research featured in Up Front Radio, San Francisco with Sandip Roy Chowdhury in 2008; (4) Elephant communication, cognition, and welfare with Karl Losken Animal Voices 102.7fm in Vancouver, BC Canada in 2008; (5) Science Update, American Association for the Advancement of Science (AAAS) in 2005; (6) BBC Radio Science, the Leading Edge in 2005; (7) German Public Radio (SWR) program Campus in 2005; (8) NPR in 2005 about elephant vocal learning; (9) BBC News Scotland in 2005 about vocal learning in elephants; (10) ABC's Radio 702 with Rory McDonald about elephant welfare in 2005; (11) Elephant communication research featured in BBC's Beyond our Senses program Sounds of Life with Grant Sonnex, in 2004; (12) Elephant communication research featured in NPR program on elephant language in 2004; (13) WETA-FM, News 820's Openline & WNYC in 1996; and (14) Musth in the African elephant, BBC Radio 4, The living World in 1981. In addition to these radio appearances, I have also appeared on the Science and the city Podcast, in 2007.

18. I have also appeared and been featured in a variety of Television programs, including in: (1) Gorongosa Park: Rebirth of Paradise (2015), a PBS six-part series about the restoration of Gorongosa National Park in which my elephant work is

highlighted in episodes 2 and 5; (2) An Apology to Elephants, an award winning 2013 documentary that explores abuse and brutal treatment of elephants; (3) War Elephants (2012), an award winning documentary about the traumatized elephants in Gorongosa National Park, Mozambique, and their recovery, by National Geographic Wild, worldwide; (4) Elephant communication research is featured in "Elephant having tales to tell" (2008), NHK, Japan (Japanese and English versions); (5) Interview on elephant communication and cognition for Smart Planet for REDES-TVE, Spain (2006); (6) Elephants and vocal learning, Daily Planet Discovery Channel Canada (2005); (7) Elephant cognition and conservation views featured on National Geographic Explorer *Elephant Rage* (2005); (8) Elephant recordings featured in Discovery Channel's Echo III (2004); (9) Elephant communication research, Elephant's Talk, featured in BBC documentary *Talking with Animals* (2002); (10) Work featured on News and Talk shows such as CNN (1993), ABC news Women and Science, The Today Show, (1996), West 57th Street CBS News (1989), PM Magazine (1987); (11) Research featured in *Inside the Animal Mind Part 3 Animal Consciousness, WNET Nature* (1999); (12) Featured on Episode 16, *Elephants*, in series, *Champions of the Wild*, Omni Film Productions, Vancouver, Canada (1998); (13) Life, elephant research, and conservation work subject of National Geographic Special, *Coming of Age with Elephants* (1996); (14) *Wildlife Warriors,* National Geographic Special (1996); (15) *A Voice for Elephants USIA AfricaPIX* (1996); (16) Discovery Channel documentary "Ultimate Guide to Elephants" (1996); (17) *Elephants like us*, Rossellini and Associates (1990); (18) *The language of the elephants*, Rossellini and Associates (1990); (19) Elephant research and conservation work featured in National Geographic Special *Ivory Wars* (1989); (20) Research highlighted in BBC production *Trials of Life* with David Attenbourgh (1988); (21) Work on elephant infrasound featured in *Supersense* BBC Natural History Unit series on animal senses (1988); and (22) Featured in Sports and Adventure, *Women of the World* (1987).

19. I have testified as an expert witness in court cases in several countries, including: (1) In 1998 in South Africa in the Case of NSPCA v. Riccardo Ghiazza regarding the capture, mistreatment of 34 baby elephants. Ghiazza was eventually found guilty of cruelty; (2) In 2005 via video link in International Fund for Animal Welfare, et al. v. Minister for the Environment and Heritage et al., N2005/916 regarding the export of Asian elephants from Thailand to Australia; (3) In 2008 in Washington DC in American

Society for the Prevention of Cruelty to Animals, Animal Welfare Institute, The Fund for Animals, Animal Protection Institute & Tom Rider Plaintiffs in ASCPA v. Ringling Brothers and Barnum & Bailey Circus; and (4) In 2012 in Los Angeles in Aaron Leider vs. John Lewis, City of Los Angeles, in a case regarding the welfare of the elephants of Los Angeles Zoo. I am currently involved in another case in South Africa but have not yet appeared in court.

20. My Curriculum Vitae fully sets forth my educational background and experience and is annexed hereto as "Exhibit A".

Basis for Opinions

21. The opinions I state in this Affidavit are based on my professional knowledge, education, training, and years of experience observing and studying elephants, as well as my knowledge of peer-reviewed literature about elephant behavior and intelligence published in the world's most respected journals, periodicals, and books that are generally accepted as authoritative in the field, and many of which were written by myself or colleagues whom I have known for several years and with whose research and field work I am personally familiar. A full reference list of peer-reviewed literature cited herein is annexed hereto as "Exhibit B".

Opinions

Premise

22. Elephants are autonomous beings. Autonomy in humans and nonhuman animals is defined as self-determined behavior that is based on freedom of choice. As a psychological concept it implies that the individual is directing their behavior based on some non-observable, internal cognitive process, rather than simply responding reflexively. Although we cannot directly observe these internal processes in other beings, we can explore and investigate them by observing, recording and analysing their behavior, as I have done with elephants for my entire career.

23. I shall indicate which species, African (*Loxodonta Africana*) or Asian (*Elephus maximus*), specific observations relate to. If the general term 'elephants' is used with no specific delineation, it can be assumed the comment relates to the African species, though it is likely that it applies to the Asian species as well.

Brain and Development

24. Elephants are large-brained, with the biggest absolute brain size of any land animal (Cozzi et al. 2001; Shoshani et al. 2006). Even relative to their body sizes, elephant brains are large. Encephalization quotients (EQ) are a standardised measure of brain size relative to body size and illustrate by how much a species' brain size deviates from that expected for its body size. An EQ of one means the brain is exactly the size expected for that body, and values greater than one indicate a larger brain than expected (Jerison 1973). Elephants have an EQ of between 1.3 and 2.3 (varying between sex and African and Asian species). This means an elephant's brain can be up to two and a half times larger than is expected for an animal of its size; this EQ is similar to that of the great apes, with whom elephants have not shared a common ancestor for almost 100 million years (Eisenberg 1981, Jerison 1973). Given how metabolically costly brain tissue is, the large brains of elephants must confer significant advantages; otherwise their size would be reduced. A large brain allows for greater intelligence and behavioral flexibility (Bates et al. 2008a).

25. Generally, mammals are born with brains weighing up to 90% of the adult weight. This figure drops to about 50% for chimpanzees. Human baby brains weigh only about 27% of the adult brain weight (Dekaban & Sadowsky 1978). This long period of brain development over many years (termed 'developmental delay') is a key feature of human brain evolution and is thought to play a role in the emergence of our complex cognitive abilities, such as self-awareness, creativity, forward planning, decision making, and social interaction (Bjorkland 1997). Delayed development provides a longer period in which the brain may be shaped by experience and learning (Fuster 2002). Elephant brains at birth weigh only about 35% of their adult weight (Eltringham 1982), and elephants show a similarly protracted period of growth, development and learning (Lee 1986). This similar developmental delay in the elephant brain is therefore likewise associated with the emergence of similarly complex cognitive abilities.

26. Despite nearly 100 million years of separate evolution (Hedges 2001), elephants share certain characteristics of our large brains, namely deep and complex folding of the cerebral cortex, large parietal and temporal lobes, and a large cerebellum (Cozzi et al. 2001). The temporal and parietal lobes of the cerebral cortex manage communication, perception, and recognition and comprehension of physical actions (Kolb and Whishaw 2008), while the cerebellum is involved in planning, empathy, and predicting and understanding the actions of others (Barton 2012). Thus, the physical

similarities between human and elephant brains occur in areas that link directly to the capacities necessary for autonomy and self-awareness.

27. Elephant brains hold nearly as many cortical neurons as do human brains: humans: 1.15×10^{10}; elephants: 1.1×10^{10} (Roth & Dicke 2005). Elephants' pyramidal neurons are larger than in humans and most other species (Cozzi et al. 2001). Pyramidal neurons are found in the cerebral cortex, particularly the pre-frontal cortex – the brain area that controls executive functions (a set of cognitive processes that are required for choosing and monitoring behaviors that facilitate an individual to reach certain goals, e.g., problem solving, planning, working memory, inhibitory and attentional control and cognitive flexibility).

28. The degree of complexity of pyramidal neurons is linked to cognitive ability, with more (and more complex) connections between pyramidal neurons being associated with increased cognitive capabilities (Elston 2003). Elephant pyramidal neurons have a large dendritic tree, i.e. a large number of connections with other neurons for receiving and sending signals (Cozzi et al. 2001).

29. As described below, along with these common brain and life-history characteristics, elephants share many behavioral and intellectual capacities with humans, including: self-awareness, empathy, awareness of death, intentional communication, learning, memory, and categorisation abilities. Many of these capacities have previously been considered – erroneously – to be uniquely human, and each is fundamental to and characteristic of autonomy and self-determination.

Awareness of Self and Others

30. Asian elephants exhibit Mirror Self Recognition (MSR) using Gallup's classic 'mark test' (Gallup 1970; Plotnik et al. 2006). MSR is the ability to recognise a reflection in the mirror as oneself, and the mark test involves surreptitiously placing a coloured mark on an individual's forehead that it could not see or be aware of without the aid of a mirror. If the individual uses the mirror to investigate the mark, the individual recognises the reflection as herself. Besides elephants, the only other mammals that have successfully passed the mark test and exhibited MSR are the great apes (chimpanzees, bonobos, gorillas and orangutans) and bottlenose dolphins (Parker and Mitchell 1994, Reiss and Marino 2001). MSR is significant because it is considered to be the key identifier of self-awareness. Self-awareness is intimately related to

autobiographical memory in humans (Prebble et al. 2013) and is central to autonomy and being able to direct one's own behavior to achieve personal goals and desires. By demonstrating that they can recognize themselves in a mirror, elephants holding a mental representation of themselves from another perspective, and thus be aware that they are a separate entity from others (Bates and Byrne 2014).

31. A being who understands the concept of dying and death possesses a sense of self. Based on the research conducted to date, observing reactions to dead family or group members suggests an awareness of death in only two animal genera beyond humans; chimpanzees and elephants (Anderson et al. 2010, Douglas-Hamilton et al. 2006). Having a mental representation of the self – a pre-requisite for mirror-self recognition – contributes to the ability to comprehend death. Wild African elephants have been shown experimentally to be more interested in the bones of dead elephants than the bones of other animals (McComb et al. 2006), and have frequently been observed using their tusks, trunk or feet to attempt to lift sick, dying or dead individuals (Douglas-Hamilton 1972, Moss 1992, Poole, 1996, Payne 2003, Douglas-Hamilton et al. 2006). Although they do not give up trying to lift or elicit movement from the body immediately, elephants appear to realise that once dead, the carcass cannot be helped anymore, and instead engage in more 'mournful' behavior, such as standing guard over the bodies, and protecting it from the approaches of predators (e.g. Douglas-Hamilton 1972, Croze cited in Moss 1982, Moss 1988, Poole 1996, Payne 2003, McComb et al. 2006). Others have observed them covering the bodies of dead elephants with dirt and vegetation (Moss 1992; Poole 1996). In the particular case of mothers who lose a calf, although they may remain with the calf's body for an extended period, they do not behave towards the body as they would a live calf. Indeed, the general demeanour of elephants who are attending to a dead elephant is one of grief and compassion, with slow movements and few, if any, vocalisations (Poole 1996). These behaviors are akin to human responses to the death of a close relative or friend, and illustrate that elephants possess some understanding of life and the permanence of death. Furthermore, elephants' interest in the bodies, carcasses and bones of elephants who have passed is so marked that when one has died, trails to the site of death are worn into the ground by the repeated visits of many elephants over days, weeks, months and even years (Poole, personal observation). The accumulation of dung around the site attests to the extended time that visiting elephants spend touching and contemplating the bones. I

have observed that, over years, the bones may become scattered over tens or hundreds of square meters as elephant pick up the bones and carry them away. The tusks are of particular interest and may be carried and deposited many hundreds of meters from the site of death (Poole, personal observation).

32. The capacity for mentally representing the self as an individual entity has been linked to general empathic abilities (Gallup 1982), where empathy can be defined as identifying with and understanding another's experiences or feelings by imagining what it would be like to be in their situation. Empathy is an important component of human consciousness and autonomy and is a cornerstone of normal social interaction. It goes beyond merely reading the emotional expressions of others. It requires modelling of the emotional states and desired goals that influence others' behavior both in the past and future, and using this information to plan one's own actions; empathy is only possible if one can adopt or imagine another's perspective, and attribute emotions to that other individual (Bates et al. 2008b). Empathy is, therefore, a component of and reliant on 'Theory of Mind' – the ability to mentally represent and think about the knowledge, beliefs and emotional states of others, whilst recognising that these can be distinct from your own knowledge, beliefs and emotions (Premack and Woodruff 1978, Frith and Frith 2005).

33. Elephants clearly and frequently display empathy in the form of protection, comfort and consolation, as well as by actively helping those who are in difficulty, such as assisting injured individuals to stand and walk, or helping calves out of rivers or ditches with steep banks (Bates et al. 2008b, Lee 1987, Poole 1996). Elephants have been observed to react when anticipating the pain of others (e.g. seen to wince when a nearby elephant stretched her trunk toward a live wire – Poole, personal observation) and have even been observed feeding those who are not able to use their own trunks to eat (Moses Kofi Sam, personal communication) and to attempt to feed those who have just died (Croze, cited in Moss 1982).

34. In an analysis of behavioral data collected from wild African elephants over a 40-year continuous field study, I have concluded that as well as possessing their own intentions, elephants can diagnose animacy and goal directedness in others, understand the physical competence and emotional state of others, and attribute goals and mental states (intentions) to others (Bates et al. 2008b), as evidenced in the examples below:

'IB family is crossing river. Infant struggles to climb out of bank after its mother. An adult female [not the mother] is standing next to calf and moves closer as the infant struggles. Female does not push calf out with its trunk, but digs her tusks into the mud behind the calf's front right leg which acts to provide some anchorage for the calf, who then scrambles up and out and rejoins mother.'

'At 11.10ish Ella gives a 'lets go' rumble as she moves further down the swamp . . . At 11.19 Ella goes into the swamp. The entire group is in the swamp except Elspeth and her calf [<1 year] and Eudora [Elspeth's mother]. At 11.25 Eudora appears to 'lead' Elspeth and the calf to a good place to enter the swamp — the only place where there is no mud.'

In addition to the examples analyzed in Bates et al. 2008b, in what appeared to be a spontaneous attempt to prevent injury to the newborn, I observed two adult females rush to the side of a third female who had just given birth, back into her and press their bodies to her. In describing the situation I wrote:

'The elephants' sounds [relating to the birth] *also attracted the attention of several males including young and inexperienced, Ramon, who, picking up on the interesting smells of the mother* [Ella], *mounted her, his clumsy body and feet poised above the newborn. Matriarch Echo and her adult daughter Erin, rushed to Ella's side and, I believe, purposefully backed into her in what appeared to be an attempt to prevent the male from landing on the baby when he dismounted."*

Examples such as these demonstrate that the acting elephant(s) (the adult female in the first example, Eudora in the second, and Erin and Echo in the third) was able to understand the intentions or situation of the other (the calf in the first case, Elspeth in the second; Ella's newborn and the male in the third) – i.e. to either climb out of or into the water, or be trampled on by the male – and they could adjust their own behavior in order to counteract the problem being faced by the other. Whilst humans may act in this helpful manner on a daily basis, such interactions have been recorded for very few non-human animals (Bates et al. 2008b). In raw footage I recently acquired of elephant behavior filmed by my brother in the Mara, Kenya, an allo-mother moves a log from under the head of an infant, in what appears to be an effort to make him more comfortable (Poole, personal observation; Video 1, attached on CD as "Exhibit C"). In a further example of understanding goal directedness of others, elephants appear to understand that vehicles drive on roads or tracks and furthermore they appear to know where these tracks lead. In Gorongosa, Mozambique, where elephants exhibit a culture of aggression toward humans, charging, chasing and attacking vehicles, adult females anticipate the direction the vehicle will go and attempt to cut it off by taking shortcuts *before* the vehicle has begun to turn (Poole personal observation 2012). The roots of empathetic behavior begin early in elephants. Just as in humans where rudimentary sympathy for others in distress has been recorded in infants as young as 10 months old (Kanakogi et al. 2013, see http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0065292), young elephants exhibit behavior that indicates that they feel sympathy for others. For instance, during fieldwork in the Maasai Mara in 2011 I filmed a mother elephant using her trunk to assist her one-year-old female calf up a steep bank. Once the calf was safely up the bank she turned around to face her five-year-old sister, who was also having difficulties getting up the bank. As the older calf clambered up the bank with effort the younger calf approached her and first touched her mouth (a gesture of reassurance among family members) and then reached her trunk out to touch the leg that had been having difficulty. Only when her sibling was safely up the bank did the calf turn to follow her mother (filmed by Poole, 2011; Video 2, attached on CD as "Exhibit D").

35. Experimental evidence from captive African elephants further demonstrates that elephants attribute intentions to others, as they follow and understand human pointing gestures (the only animal so far shown to do so spontaneously). The elephants understood that the human experimenter was pointing in order to communicate information to them about the location of a hidden object (Smet and Byrne 2013). Attributing intentions and understanding another's reference point is central to empathy and theory of mind.

36. Our analysis of simulated oestrus behaviors in African elephants – whereby a non-cycling, sexually experienced older female will simulate the visual signals of being sexually receptive, even though she is not ready to mate or breed again – shows that these knowledgeable females adopt false oestrus behaviors in order to demonstrate to naïve young females how to attract and respond appropriately to suitable males. The experienced females may be taking the youngsters lack of knowledge into account and

actively showing them what to do; a possible example of true teaching as it is defined in humans. Whilst this possibility requires further investigation, this evidence, coupled with the data showing that they understand the ostensive cues in human pointing, demonstrates that elephants do share some executive skills with humans, namely understanding the intentions and knowledge states (minds) of others. Ostensive communication refers to the way humans use particular behavior such as tone of speech, eye contact, physical contact to emphasize that a particular communication is important. Lead elephants in family groups use ostensive communication frequently (e.g. Ear-Flap-Slide and Ear-Slap, described in Poole & Granli 2011; Comment-Rumble described in Poole, 2011) as a way to say, "Heads up – I am about to do something that you should pay attention to."

37. Further related to empathy, coalitions and cooperation have been documented in wild African elephants, particularly to defend family members or close allies from (potential) attacks by outsiders, such as when a family group tries to 'kidnap' a calf from an unrelated family (Lee 1987, Moss and Poole 1983) or during the extraordinary teamwork executed by elephants when they defend themselves against predators, particularly, human beings (Poole and Granli 2011; Poole 2011). These latter behaviors are preceded by gestural and vocal signals typically given by the matriarch and acted upon by family members and have been documented many times amongst the Gorongosa elephants and in elephant behavior footage from there that we are currently analyzing. These behaviors are based on one elephant understanding the signals, emotions and goals of the coalition partner(s) (Bates et al. 2008b).

38. Cooperation is also evident in experimental tests with captive Asian elephants, whereby elephants demonstrated they can work together in pairs to obtain a reward, and understood that it was pointless to attempt the task if their partner was not present or could not access the equipment (Plotnik et al. 2011). Problem-solving and working together to achieve a collectively desired outcome involve mentally representing both a goal and the sequence of behaviors that is required to achieve that goal; it is based on (at the very least) short-term action planning.

39. Wild elephants have frequently been observed engaging in cooperative problem solving, for example when retrieving calves that have been kidnapped by other groups, when helping calves out of steep, muddy river banks (Bates et al. 2008b), when rescuing a calf attacked by a lion (acoustic recording calling to elicit help from others

(Poole 2011) by or the vocal and gestural communication used when they are negotiating a plan of action (e.g. when elephants use Cadenced-Rumbling, Poole 2011, or High-Fiving[1] to lend their "voice" to a proposed or targeted plan of action; Video 3, attached on CD as "Exhibit E") or when they must navigate through human-dominated landscapes to reach a desired destination (e.g. habitat, salt-lick, waterhole) as evidenced in video footage of Selengei and her family filmed in 2015. These behaviors demonstrate the purposeful and well-coordinated social system of elephants and show that elephants can hold particular aims in mind and work together to achieve those goals. Such intentional, goal-directed action forms the foundation of independent agency, self-determination, and autonomy.

40. Elephants also show innovative problem-solving in experimental tests of insight (Foerder et al. 2011), where insight can be defined as the 'a-ha' moment when a solution to a problem 'suddenly' becomes clear. (In cognitive psychology terms, insight is the ability to inspect and manipulate a mental representation of something, even when you can't physically perceive or touch the something at the time.) Or more simply, insight is thinking and using only thoughts to solve problems (Richard Byrne, Evolving Insight, Oxford Online Press, 2016[2]). A juvenile male Asian elephant demonstrated just such a spontaneous action by moving a plastic cube and standing on it to obtain previously out-of-reach food. After solving this problem once, he showed flexibility and generalization of the technique to other, similar problems by using the same cube in different situations, or different objects in place of the cube when it was not available. This experiment again demonstrates that elephants can choose the appropriate action and incorporate it into a sequence of behavior in order to achieve a goal, which they kept in mind throughout the process.

41. Further experiments also demonstrate Asian elephants' ability to understand goal-directed behavior. When presented with food that was out of reach, but with some bits resting on a tray that could be pulled within reach, the elephants learned to pull only those trays that were baited with food (Irie-Sugimoto et al. 2007). Success in this kind of 'means-end' task demonstrates causal knowledge, which requires understanding not

[1] http://www.elephantvoices.org/multimedia-resources/elephant-gestures-database/406-aggressive/post-conflict-display/1830-high-fiving.html?layout=gesture.

[2] Available at: https://global.oup.com/academic/product/evolving-insight-9780198757078?cc=us&lang=en&.

just that two events are associated with each other but also that there is some mediating force that connects and affects the two which may be used to predict and control events. Moreover, understanding causation and inferring object relations may be related to understanding psychological causation, i.e., the appreciation that others are animate beings that generate their own behavior and have mental states (e.g., intentions).

Communication and Social Learning

42. Speech is a voluntary behavior in humans, whereby a person can choose whether to utter words and thus communicate with another. Therefore, speech and language reflect autonomous thinking and intentional behavior. Elephants also intentionally use their vocalisations to share knowledge and information with others (Poole 2011). Females and dependents call to emphasise and reinforce their social units and to coordinate movement. Male elephants primarily communicate about their sexual status, rank and identity, though like females they also use calls to coordinate movement and interactions in their social groups. Call types (47 have been described by Poole 2011) can generally be separated into laryngeal calls (such as rumbles, cries, roars) or trunk calls (such as trumpets, snorts), with different calls in each category being used in different contexts (Poole et al. 1988; Poole 2011; Poole and Granli 2004; Soltis et al. 2005; Wood et al. 2005). Field experiments have shown that African elephants distinguish between different call types (for example, contact calls – rumbles that travel long distances to maintain associations between elephants that could be several kilometres apart, Estrus-Rumbles – that occur after a female has copulated or Musth-Rumbles that are made by males in the heightened sexual and aggressive state of musth) and these different call types elicit different responses in the listeners. Elephant vocalisations are not simply reflexive, they have distinct meanings to listeners and they are truly communicative, similar to the volitional use of language in humans (Leighty et al. 2008; Poole 1999; Poole 2011).

43. Elephants display a wide variety (> 200 described) of gestures, signals and postures, used to communicate information to the audience (Poole and Granli 2011 and The Elephant Ethogram). Such signals are adopted in many different contexts, such as aggressive, sexual or socially integrative situations, and each signal is well defined and results in predictable responses from the audience. That is, each signal or gesture has a specific meaning both to the actor and recipient. Elephants' use of gestures

demonstrates that they communicate intentionally and purposefully to share information with others and/or alter the others' behavior to fit their own will.

44. Elephants use specific calls and gestures to plan and discuss a course of action. These may involve responding to a threat by a group retreat or mobbing action (including celebration of successful efforts), or planning and discussing where, when and how to move to a new location. I have studied elephant communication for two decades and have field notes, acoustic recordings, and raw footage of numerous examples of such communication.

45. In group-defensive situations elephants respond with highly coordinated behavior, both rapidly and *predictably,* to specific calls uttered and particular gestures exhibited by group members. In other words, these elephant calls and gestures hold specific meanings not only to elephant listeners, but also, through experience, to human observers. The rapid, predictable and collective response of elephants to these calls and gestures indicates that elephants have the capability of understanding the goals and intentions of the signalling individual. For example, as was documented and described by me in Episode 2 of PBS six-part series *Gorongosa Park: Rebirth of Paradise,* matriarch Provocadora's contemplation of us (Listening, J-Sniffing) followed by her purposeful Perpendicular-Walk[3] (in relation to us) toward her family and her Ear-Flap-Slide[4] was a clear indication to her family to begin a Group-Advance[5] (on us). This particular elephant attack is a beautiful example of elephants' use of empathy, coalition and cooperation. Provocadora's instigation of the Group-Advance led to a two and a half minute Group-Charge[6] in which the three other large adult females of the 36-member family took turns to lead the charge, passing the baton, in a sense, from one to the next. Once they succeeded in their goal of chasing us away they celebrated their victory High-Fiving[7] (with their trunks) and engaging in an End-Zone-Dance[8]. High-

[3] https://www.elephantvoices.org/multimedia-resources/elephant-gestures-database/431-defensive/confront-predator/1660-perpendicular-walk.html?layout=gesture.
[4] https://www.elephantvoices.org/multimedia-resources/elephant-gestures-database/411-social-integration/movement-initiation-leadership/1789-ear-flap-slide.html?layout=gesture.
[5] https://www.elephantvoices.org/multimedia-resources/elephant-gestures-database/408-defensive/mobbing/1817-group-advance.html?layout=gesture.
[6] https://www.elephantvoices.org/multimedia-resources/elephant-gestures-database/408-defensive/mobbing/1818-group-charge.html?layout=gesture.
[7] https://www.elephantvoices.org/multimedia-resources/elephant-gestures-database/405-aggressive/escalation/1845-high-fiving.html?layout=gesture.
[8] https://www.elephantvoices.org/multimedia-resources/elephant-gestures-database/406-aggressive/post-conflict-display/1831-end-zone-dance.html?layout=gesture.

Fiving is also typically used to initiate a coalition and is both preceded by and associated with other specific gestures and calls that lead to very goal oriented collective behavior. Elephant group defensive behavior is highly evolved and involves a range of different tactical manoeuvres adopted by different elephants. The calls and gestures used are too many to mention here but are described in Poole 2011 and on The Elephant Ethogram.

46. In planning and communicating intentions regarding a movement, elephants use both vocal and gestural communication. For example, I have observed that a member of a family will use the axis of her body to point in the direction she wishes to go and then vocalize, every couple of minutes, with a specific call known as a "Let's-Go" Rumble (Poole et al. 1988; Poole 2011), "I want to go this way, let's go together." The elephant will also use intention gestures – such as Foot-Swinging – to indicate her intention to move. Such a call may be successful or unsuccessful at moving the group or may lead to a longer (45 minutes or more) discussion (series of rumble exchanges known as Cadenced-Rumbles) that I interpret as negotiation. Sometimes such negotiation leads to disagreement and the group may spilt and go different ways for a period of time. In situations where the security of the group is at stake, for instance when a movement is planned through or near to human settlement, all group members are focused on the decision of the matriarch. So while "Let's-Go"-Rumbles are uttered, others adopt a Waiting[9] posture until the matriarch, after much Listening[10], J-Sniffing[11] and Monitoring[12] decides it is safe to proceed, where upon they bunch together and move purposefully, and at a fast pace in a Group-March (I have an example on film from Maasai Mara, 2015). Elephants typically move through dangerous habitat at high speed and at night in a very goal-oriented manner known as "streaking," which has been described and documented through the movements of elephants wearing satellite tracking collars (Douglas-Hamilton et al. 2005). The many different signals – calls, postures, gestures and behaviors elephants use to contemplate and initiate such movement (including others e.g. Ear-Flap, Ear-Flap-Slide) are clearly understood by

[9] https://www.elephantvoices.org/multimedia-resources/elephant-gestures-database/411-social-integration/movement-initiation-leadership/1788-waiting.html?layout=gesture.
[10] https://www.elephantvoices.org/multimedia-resources/elephant-gestures-database/424-attentive/listening/1702-listening.html?layout=gesture.
[11] https://www.elephantvoices.org/multimedia-resources/elephant-gestures-database/423-attentive/sniffing/1705-j-sniff.html?layout=gesture.
[12] https://www.elephantvoices.org/multimedia-resources/elephant-gestures-database/423-attentive/sniffing/1710-monitoring.html?layout=gesture.

other elephants (just as they can be by long-term study by human observers), mean very specific things and indicate that elephants 1) have a particular plan which they can communicate with others; 2) can adjust this plan according to their immediate assessment of risk or opportunity 3) can communicate and execute the plan in a coordinated manner.

47. Furthermore, elephants have been shown to vocally imitate the sounds they hear around them, from the engines of passing trucks and the calls of other species to the commands of human zookeepers (Poole et al. 2005, Stoeger et al. 2012). Imitating another's behavior demonstrates a sense of self, as it is necessary to understand how one's own behavior relates to the behavior of others.

48. Experimental evidence demonstrates that African elephants recognize the importance of visual attentiveness of the intended recipient (in this case, human experimenters) of gestural communication (Smet & Byrne 2014), further supporting the conclusion that elephants' gestural communication is intentional and purposeful. Furthermore, the ability to understand the visual attentiveness and perspective of others is crucial for empathy and mental-state understanding.

Memory and Categorisation

49. Elephants have both extensive and long-lasting memories, just as the folk stories and adages encourage us to believe. McComb et al. (2000), using experimental playback of long-distance contact calls in Amboseli National Park, Kenya, showed that African elephants remember and recognize the voices of at least 100 other elephants. Each adult female elephant tested was familiar with the contact-call vocalizations of individuals from an average of 14 families in the population. When the calls were from a familiar family – that is, one that had previously been shown to have a high association index with the test group – the test elephants contact-called in response and approached the location of the loudspeaker. When a test group heard unfamiliar contact calls (from groups with a low association index with the test group), they bunched together and retreated from the area.

50. McComb et al. (2001) went on to show that this social knowledge accrues with age, with older females having the best knowledge of the contact calls of other family groups. McComb et al. (2011) also showed that older females are better leaders, with more appropriate decision-making in response to potential threats (in this case, in the

form of hearing lion roars). Younger matriarchs under-reacted to hearing roars from male lions. Sensitivity to hearing this sound increased with increasing matriarch age, with the oldest, most experienced females showing the strongest response to this danger. These experimental studies show that elephants continue to learn and remember information about their environments throughout their lives, and this accrual of knowledge allows them to make better decisions and better lead their families as they grow older.

51. Elephants' long-term memory is further demonstrated from data on their movement patterns. African elephants are known to move over very large distances in their search for food and water. Leggett (2006) used GPS collars to track the movements of elephants living in the Namib Desert. He recorded one group traveling over 600 km in five months, and Viljoen (1989) showed that elephants in the same region visited water holes approximately every four days, even though some of them were more than 60km apart. Elephants inhabiting the deserts of both Namibia and Mali have been described traveling hundreds of kilometers to arrive at remote water sources shortly after the onset of a period of rainfall (Blake et al. 2003; Viljoen 1989), sometimes along routes that researchers believe have not been used for many years. These remarkable feats suggest exceptional cognitive mapping skills, reliant on the long-term memories of older individuals who traveled that path sometimes decades earlier. Indeed it has been confirmed that family groups with older matriarchs are better able to survive periods of drought. The older matriarchs lead their families over larger areas during droughts than those with younger matriarchs, again apparently drawing on their accrued knowledge (this time about the locations of permanent, drought-resistant sources of food and water) to better lead and protect their families (Foley, Pettorelli, and Foley 2008).

52. It has recently been shown that long-term memories, and the decision-making mechanisms that rely on this knowledge, are severely disrupted in elephants who have experienced trauma or extreme disruption due to 'management' practices initiated by humans. Shannon et al. (2013) demonstrated that elephants in South Africa who had experienced trauma decades earlier showed significantly reduced social knowledge. During archaic culling practices, these elephants were forcibly separated from family members and subsequently translocated to new locations. Two decades later, they still showed impoverished social knowledge and skills and impaired decision-making abilities, compared with an undisturbed population in Kenya. Disrupting elephants'

natural way of life can negatively impact their knowledge and decision-making abilities.

53. Elephants demonstrate advanced 'working memory' skills. Working memory is the ability to temporarily store, recall, manipulate and coordinate items from memory. Working memory directs attention to relevant information, and results in reasoning, planning, and coordination and execution of cognitive processes through use of a 'central executive' (Baddeley 2000). Adult human working memory is generally thought to have a capacity of around seven items. In other words, we can keep about seven different items or pieces of information in mind at the same time (Miller 1956). We conducted experiments with wild elephants in Amboseli National Park, Kenya, manipulating the location of fresh urine samples from related or unrelated elephants. The elephants' responses to detecting urine from known individuals in surprising locations showed that they are able to continually track the locations of at least 17 family members in relation to themselves, as either absent, present in front of self, or present behind self (Bates et al. 2008a). This remarkable ability to hold in mind and regularly update information about the locations and movements of a large number of family members is best explained by elephants possessing an unusually large working memory capacity, apparently much larger than that of humans.

54. Elephants show sophisticated categorisation of their environment, with skills on a par with those of humans. My colleagues and I experimentally presented the elephants of Amboseli National Park, Kenya, with garments that gave olfactory or visual information about their human wearers – either Maasai moran (male warriors who traditionally attack and spear elephants on occasion as part of their rite of passage), or Kamba men (who are agriculturalists and traditionally pose little threat to elephants). In the first experiment, the only thing that differed between the cloths was the smell, derived from the ethnicity and/or lifestyle of the wearers. The elephants were significantly more likely to run away when they sniffed cloths worn by Maasai than those worn by Kamba men or no one at all. In a second experiment, we presented the elephants with two cloths that had not been worn by anyone, but here one was white (a neutral stimulus) and the other was red—the color that is ritually worn by Maasai moran. With access only to these visual cues, the elephants showed significantly greater reaction to red garments than white, often including signs of aggression. We concluded that elephants are able to categorize a single species (humans) into sub-classes (i.e.

‘dangerous’ or ‘low risk’) based on either olfactory or visual cues alone (Bates et al. 2007). McComb et al. went on to show that the same elephant population can also distinguish between human groups based on our voices: The elephants reacted differently (and appropriately) depending on whether they heard Maasai or Kamba men speaking, and also when they heard male or female Maasai (where female Maasai pose no threat as they are not involved in spearing events), and adult Maasai men or young Maasai boys (McComb et al. 2014). Scent, sounds and visual signs associated specifically with Maasai men are categorized as ‘dangerous’, while neutral signals are attended to but categorized as ‘low risk’. These sophisticated, multi-modal categorization skills may be exceptional among non-human animals.

Sanctuary is Often the Best Option for Captive Elephants

55. Elephants are highly intelligent, social animals. In elephant society an intricate network of relationships radiates outward from the mother-offspring bond through the extended family and the bond group, to clan, population and beyond to strangers, including the primary predatory threat to their survival: Humans. Some 300 documented behaviors, gestures and calls have evolved helping to mediate and maintain these relationships, to communicate over miles, and to direct extraordinarily coordinated bonding ceremonies and group defense.

56. Over millions of years elephants have roamed the earth as intelligent and social mammals, capable of planning, negotiating and engaging in collective decision making. Active more than 20 hours each day elephants move many miles across landscapes to locate resources to maintain their large bodies, to connect with friends and to search for mates. Elephants have evolved to move. Holding them captive and confined prevents them from engaging in normal, autonomous behavior and can result in the development of arthritis, osteoarthritis, osteomyelitis, boredom, and stereotypical behavior. Held in isolation elephants become bored, depressed, aggressive, catatonic, and fail to thrive. Human caregivers are no substitute for the numerous, complex social relationships and the rich gestural and vocal communication exchanges that occur between free-living elephants. And while a captive elephant is generally better off with the company of another elephant, this is at best a small comfort and no justification for the deprivation of autonomy and free movement that results.

57. For elephants in captivity, especially those born into it or kept there for a majority

of their lives, going back to the "wild" is unfortunately not an option. For these elephants, human-run sanctuaries are currently the best option. The reasons are explained in detail in Poole & Granli, 2008 and relate to the orders of magnitude of greater space that is offered in sanctuaries. Such space permits autonomy and allows elephants to develop more healthy social relationships and to engage in a near natural movement, foraging, and repertoire of behavior.

58. Elephants are highly social animals and, whether male or female, they are suited to the company of other elephants. Elephants in captivity often do not get on with the elephants their captors select to put them with. Being fenced into areas too small to permit them to select between different companions and when to be with them, they have no autonomy. Elephants need a choice of social partners, and the space to permit them to be with the ones they want, when they want, and to avoid particular individuals, when they want.

59. Compliance with Association of Zoos and Aquariums (AZA) Standards for Elephant Management and Care, the United States federal Animal Welfare Act, or similar standards, laws, and regulations is inadequate for ensuring the wellbeing of elephants. I have long promoted the development of elephant sanctuaries and co-founded one of them (Santuário de Elefantes Brasil), because our more than four decades long study of free living elephants shows that the AZA specifications are woefully inadequate for meeting the needs of elephants (Poole & Granli 2008).

Examples of Successful Releases of Elephants to Sanctuary

60. Elephants with serious physical or psychological problems in zoos have usually become more normal functioning elephants when given more appropriate space in a sanctuary such as the Performing Animal Welfare Society (PAWS) in Northern California.

61. For example, Maggie was considered to be an anti-social, aggressive elephant and by the time she was moved from the Alaska Zoo to PAWS she was in such poor condition she could barely stand. She is now a thriving, socially active elephant. Indeed she is considered to be PAWS' most social elephant (Ed Stewart, pers. comm.).

62. Ruby was transferred from the LA Zoo to the Knoxville Zoo in Tennessee where she did not successfully integrate with their elephants. When she was moved to PAWS

she integrated easily with the other elephants and has become respected leader of her group (Ed Stewart, pers. comm.).

63. Sissy is another classic example. She had been transferred four times and had spent a decade and a half alone before being sent to the Houston Zoo, where she was labeled autistic and antisocial. She was returned to her solitary zoo where she killed a person. She was moved again to El Paso Zoo, where she was beaten because she was a killer elephant. In 2000 she was transferred to The Elephant Sanctuary in Tennessee (TES) and within six months of arrival she was calm and cooperative. She became a leader, putting all elephants at ease. In 2000 the United States Department of Agriculture (USDA) had given Sissy only a year to live. Twenty years later she is still going strong (Scott Blais, pers. comm.).

64. Bunny had been transferred four times and had only known a less than half an acre exhibit when she arrived at TES. She was 47 years old and had spent 40 years alone. Within 24 hours of arriving at sanctuary she was completely and seamlessly integrated into the group (Scott Blais, pers. comm.).

65. Maia and Guida, the first two elephants at Santuário de Elefantes Brasil, had lived together for 40 years. For most of these years Maia was aggressive to Guida, knocking her over, pushing her down and pinning her to the ground. Within 12 hours of arriving at the sanctuary the gates were opened up between them. From that day no further aggression was seen. The sanctuary is currently home to five rescued elephants who share 75 acres, including one area of 40 acres, another of 22 acres and three other smaller areas ranging from 1.5 to 4 acres. The three smaller yards are introductory areas to help assimilate and provide flexible care depending on the physical and emotional needs of the elephants, and they are generally left open into the larger habitats to permit a greater level of exploration and autonomous living. This combination of possible spaces allows easy integration of new elephants. The plan is to expand the space for Asian elephants to multiple hundred acres and possibly a thousand or more, depending upon whether males and females can be integrated. There are also plans to create separate habitat for African elephants. Santuário de Elefantes Brasil owns a total of 2800 acres (Scott Blais, pers. comm.).

66. In South Africa, African elephants that have been released from long-term captivity to the wild, after a period of suitable rehabilitation, have all adapted entirely,

successfully resuming life as wild elephants despite decades in captivity, and not having lived in the ‘wild' since they were juveniles (see Elephant Reintegration Trust – https://www.elephantreintegrationtrust.com/projects).

67. As the above examples illustrate, the problems seen in captive elephants can usually be mitigated with the proper attention and environment. There is no basis for arguing that captive and wild elephants are fundamentally different. They have the same biology and needs, but the failure of captivity to meet these needs results in physical and psychological problems.

68. Captive elephants have been safely and successfully transferred long distances to sanctuary. For example, PAWS has been involved in moving more than a dozen elephants over the years without incident. These moves include older females and from places as far away as Alaska and Toronto, Canada. Some of these elephants had lived in their prior facilities for over 40 years. There is no evidence that the inevitable stress of these moves has had a long-term effect on any of the elephants. Santuario de Elephantes Brasil moved Rana (https://globalelephants.org/rana/), a confiscated ex-circus elephant in her 50s, 1,675 miles to their sanctuary in late December 2018. In May 2020, in the midst of the global COVID-19 pandemic, an elephant named Mara (https://globalelephants.org/mara/) was transferred nearly 1,700 miles from the Buenos Aires Zoo to the same sanctuary, where she almost immediately bonded with Rana and has adapted well to life in sanctuary.[13] In November 2020, following an order of the Islamabad High Court, a male Asian elephant named Kaavan was flown about 2,500 miles from the Marghazar Zoo in Islamabad, Pakistan to the Kulen Promtep Wildlife Sanctuary in Cambodia, where he is adjusting and immediately began interacting with other elephant residents.[14]

Summary

69. Scientific knowledge about elephant intelligence has been increasing rapidly in the past decade: what we currently know is only a tiny fraction of what elephant brains are likely capable of, and yet more amazing abilities are still likely to be discovered. But

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[13] Brook Jarvis, “How to Move Your Elephant During a Pandemic,” New York Times (Aug. 9, 2020), available at: https://www.nytimes.com/2020/08/09/science/coronavirus-elephants-wildlife-zoo.html.

[14] Kelli Bender, “Kaavan the 'World's Loneliest Elephant' Makes an Elephant Friend for the First Time in 8 Years,” People (Dec. 1, 2020), available at: https://people.com/pets/kaavan-worlds-loneliest-elephant-meets-first-elephant-in-8-years/.

even based on what we know at this stage, including through my own and my colleagues’ extensive experience, observations and studies, both African and Asian elephants share many key traits of autonomy with humans and like humans are autonomous beings.

elephants share many key traits of autonomy with humans and like humans are autonomous beings.

I, Joyce Poole, Ph.D., certify under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Joyce Poole, Ph.D.

28 March 2022

Date

Exhibit 7

The Nonhuman Rights Project, Inc. Trust for Amahle, Nolwazi, and Vusmusi

AGREEMENT made and entered into as of the 11 day of April 2022, by The Nonhuman Rights Project, Inc. (hereinafter referred to as the "grantor"), at 5195 NW 112th Terrace, Coral Springs, Florida 33076, as the grantor, by Carisa Janes (hereinafter referred to as the "trustee") residing at 413 Howland Canal, Court C, Venice, California 90291 as trustee, and by Elizabeth Stein (hereinafter referred to as the "enforcer"), residing at 5 Dunhill Road, New Hyde Park, New York 11040, as the enforcer.

WITNESSETH:

The grantor has granted, assigned and transferred, and does hereby grant, assign and transfer to the trustee hereunder, the property set forth in Schedule A attached hereto, to have and to hold the same, and any moneys, securities and other properties which the trustee may, pursuant to any of the provisions hereof, at any time hereafter hold or acquire (all of which is hereinafter collectively referred to as the "Trust Estate"), in trust, to hold, invest and reinvest the Trust Estate, and to collect and receive the income therefrom and, after deducting the expenses of administering the trust hereby created, to hold and dispose of the income and principal of the Trust Estate as hereinafter provided. This trust shall be known as **The Nonhuman Rights Project, Inc. Trust for Amahle, Nolwazi, and Vusmusi**.

ARTICLE ONE: **Beneficiaries**. The trustee is hereby authorized to expend the income and principal of the Trust Estate for the benefit of the domestic or pet animals named Amahle, Nolwazi, and Vusmusi (hereinafter referred to as the "beneficiaries") who are presently held captive at the FRESNO CHAFFEE ZOO. This trust is being created pursuant to California Probate Code, Section 15212, as amended.

ARTICLE TWO: **Disposition of Income and Principal**.

A. The trustee, in the trustee's discretion, may pay for the care of the beneficiaries during their life from the income and principal of the Trust Estate, as the trustee determines is necessary and/or beneficial to the beneficiaries.

B. Any income accrued but not distributed for the benefit of the beneficiaries shall be added to the principal of the trust.

C. The grantor is creating this trust to pay for the care of the beneficiaries and the trustee does not need to consider the interests of the remainderman. The trustee, in the trustee's discretion, may use all of the Trust Estate for the benefit of the beneficiaries so that nothing remains when the trust terminates.

D. This trust shall terminate upon the death of the last beneficiary or upon the revocation of the trust by the grantor in accordance with Article Seven of the trust, whichever comes first. In the event the trust terminates upon the death of the last beneficiary, the property remaining in the Trust Estate, if any, shall be paid to the sanctuary in whose care the last beneficiary has been entrusted. If the last beneficiary is not in the care of such a sanctuary at the time of his/her death, the property remaining in the Trust Estate, if any, shall be paid to the grantor. In the event the trust terminates due to revocation by the grantor, the property remaining in the Trust Estate, if any, shall be paid to the grantor.

ARTICLE THREE: <u>Additions to the Trust Estate</u>. The trustee may, but need not, receive, hold, manage and dispose of as part of the Trust Estate and subject to all of the provisions of this Agreement, any additional cash, securities and other properties which the grantor, or any other person, may hereafter validly transfer or set over to the trustee, as trustee of the trust, with written instructions to hold the same under the terms of this Agreement.

ARTICLE FOUR: <u>Successor Trustees</u>.

A. In the event that the trustee shall die, resign, fail, or be unable to act as trustee, the President of The Nonhuman Rights Project, Inc. shall designate a successor trustee. The successor trustee shall accept such appointment by acknowledged instrument filed with the records of the trust.

B. In the event that the successor trustee shall die, resign, fail, or be unable to act in that capacity, the President of The Nonhuman Rights Project, Inc. shall appoint a suitable person to act as the successor trustee. Such person shall accept such appointment by acknowledged instrument filed with the records of the trust.

C. Any and all rights, powers, discretions, and duties conferred and imposed under this Agreement upon the trustee are hereby likewise conferred and imposed upon any and all successor trustees.

D. No bond, surety or undertaking of any kind shall be required of the trustee (or successor trustees) in this or any other jurisdiction for the faithful performance of the trustee's duties as such.

ARTICLE FIVE: <u>Trustee Powers</u>. In the administration of the Trust Estate, and the trust hereby created, the trustee shall have the full power and authority, not in limitation, but in addition to the ordinary powers of trustees:

A. To hold and retain all or any part of the Trust Estate for so long as the trustee may deem advisable;

B. To keep all or any portion of the Trust Estate in cash uninvested for such period or periods of time as the trustee may deem advisable;

C. To invest, reinvest and change the form of investment in the trustee's uncontrolled discretion. In making or retaining investments, the trustee shall be under no obligation to diversify them;

D. To engage attorneys, accountants, agents, custodians, clerks, investment counsel, and such other persons as the trustee may deem advisable in the administration of the Trust Estate, and to make such payments therefore from the Trust Estate as the trustee may deem reasonable, and to delegate any discretion which the trustee may deem advisable;

E. To exercise all of the trustee's powers and authority, including any discretion conferred in this Agreement, after termination of any trust created herein and until the same is fully distributed.

It is the intention of the grantor that the enumeration of specific powers herein shall not be construed in any way to limit or affect the general powers granted herein.

ARTICLE SIX: <u>Enforcer</u>. Grantor designates Elizabeth Stein to be the enforcer of the trust (hereinafter referred to as the "enforcer") who shall have the full power and authority, not in limitation, but in addition to the ordinary powers of the enforcer to enforce the terms of the trust, if necessary. In the event that the trustee shall die, resign, fail, or be unable to act as enforcer, the President of The Nonhuman Rights Project, Inc. shall designate a suitable person to act as the successor enforcer. Such person shall accept such appointment by acknowledged instrument filed with the records of the trust. Any and all rights, powers, discretions and duties conferred and imposed under this Agreement upon the enforcer are hereby likewise conferred and imposed upon any and all successor enforcers.

ARTICLE SEVEN: Trust is Revocable. The grantor reserves the right, at any time and without the consent or approval or any person, (a) by an instrument signed by the grantor and delivered to the trustee, to revoke the trust hereby created in whole or in part, without the consent of any other person, or (b) by a like instrument signed and acknowledged by the grantor and delivered to the trustee, to amend this agreement, provided that the duties, responsibilities, and rate of compensation of the trustee shall not be altered without the trustee's written consent. The trustee shall be under no duty to inquire into the circumstances surrounding any revocation or amendment (including whether the revocation or amendment was procured by undue influence), except to be satisfied that the grantor is competent to execute the instrument delivered to the trustee.

ARTICLE EIGHT: California Law Governs. This shall be a California trust administered in accordance with the laws of that State. It shall be construed, and the validity and effect of the provisions hereof shall be determined in accordance with the laws of California.

ARTICLE NINE: Language. As used in this Agreement, words in the masculine, feminine or neuter gender shall be considered to be the appropriate gender as the context and circumstances require and words in the singular or plural shall be considered to be the appropriate number as the context and circumstances require.

ARTICLE TEN: Acceptance by Trustee and Enforcer. The trustee and enforcer accept the trust established by this Agreement and agree to execute the same in accordance with its true intent and meaning.

ARTICLE ELEVEN: Signatures. The trust may be signed in counterparts. The signatures, and notarization thereof, of the grantor, trustee and enforcer together constitute a valid acknowledgment of the trust.

Schedule A
Assets in Trust
$5,000 Cash

IN WITNESS WHEREOF, Steven M. Wise, President of the The Nonhuman Rights Project, Inc., as grantor, hereunto subscribes his name as of APRIL 11, 2022.

Steven M. Wise, President

Steven M. Wise, President
The Nonhuman Rights Project

STATE OF FLORIDA

:ss.:

COUNTY OF BROWARD

On the 11th day of April, in the year 2022, before me, the undersigned, a Notary Public in and for said state, personally appeared **Steven M. Wise, President of the Nonhuman Rights Project, Inc.,** personally known to me or proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity as trustee and that by his signature on the instrument, the person or the entity upon behalf of which the person acted, executed the instrument.

Debra J. Slater
Comm. # GG948682
Expires: April 7, 2024
Bonded Thru Aaron Notary

Notary Public

IN WITNESS WHEREOF, TRUSTEE, as trustee, hereunto subscribes her name as of 4/12, 2022.

Carisa Janes, Trustee

STATE OF ~~CALIFORNIA~~ New York

:ss.:

COUNTY OF ~~LOS ANGELES~~ New York

On the 12th day of April, in the year 2022, before me, the undersigned, a Notary Public in and for said state, personally appeared **Carisa Janes**, personally known to me or proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that she executed the same in her capacity as trustee and that by her signature on the instrument, the person or the entity upon behalf of which the person acted, executed the instrument.

Notary Public

SARAI MARIE F. VAZQUEZ
Notary Public - State of New York
NO. 01VA6178036
Qualified in New York County
My Commission Expires Nov 19, 2023

IN WITNESS WHEREOF, Elizabeth Stein, as enforcer, hereunto subscribes her name as of April 9, 2022.

Elizabeth Stein, Enforcer

STATE OF NEW YORK

:ss.:

COUNTY OF NASSAU

On the 9th day of April, in the year 2022, before me, the undersigned, a Notary Public in and for said state, personally appeared **Elizabeth Stein**, personally known to me or proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that she executed the same in her capacity as ~~trustee~~ enforcer and that by her signature on the instrument, the person or the entity upon behalf of which the person acted, executed the instrument.

Notary Public

RICKEY G. ART
NOTARY
NO. 01AR6364018
QUALIFIED IN
NASSAU COUNTY
COMM. EXP.
09/05/2025
PUBLIC
STATE OF NEW YORK

EXHIBIT 3

Declaration of Bob Jacobs

I, Bob Jacobs, declare as follows:

Introduction and Qualifications

1. My name is Bob Jacobs. I graduated with a Bachelor of Arts, *Magna Cum Laude,* in German from Whitman College in 1980. I received an M.A. in Germanics, with a minor in Teaching English as a Second Language, from the University of Washington in 1982. I received my Ph.D. from the University of California, Los Angeles (UCLA) in Applied Linguistics in 1991, completing a neuroanatomy dissertation under the supervision of Drs. Arnold B. Scheibel and John Schumann. The dissertation was entitled: "A Quantitative Dendritic Analysis of Wernicke's Area". During this time, I also worked with Dr. Marian Diamond of the University of California, Berkeley. Post-doctoral research in neuroimaging was also completed from 1991-1993 under the supervision of Dr. Harry Chugani at UCLA. I began my tenure track professorship in the Department of Psychology at Colorado College in 1993, started the school's Neuroscience major in 1996, and have been at Colorado College since that time, becoming a full professor in 2006. I reside in Colorado Springs, CO.
2. I submit this declaration in support of Petitioner The Nonhuman Rights Project, Inc. (NhRP) in its habeas corpus case on behalf of the captive elephant named above. I have professional knowledge of the facts to which I attest and am not a party to this proceeding.
3. I have been conducting research on the mammalian brain since 1984 when I began my dissertation research in the Laboratory of Dr. Arnold B. Scheibel at the UCLA Brain Research Institute. I have 44 peer-reviewed publications to my name, all in well-respected scientific journals. I also have two chapters in edited volumes, and 63 professional talks/posters presented at academic conferences, and over 60 invited lectures about the brain. From 1984 to 2010, my main research focus on the human cerebral cortex, specifically on the quantitative neuromorphology in the cerebral cortex, that is, the shape and size of nerve cells (neurons) in the outmost layers of the brain involved in higher cognitive functions—18 publications have focused on human tissue.

4. From 2010 onward, I focused on comparative neuroanatomy, examining the brains of a variety of species—for many of these species, our studies constitute the first time anyone had explored the neurons in the brains of these animals. Species examined included: African elephant, giraffe, minke whale, humpback whale, bottlenose dolphin, Siberian tiger, clouded leopard, Florida manatee, cheetah, African leopard, chimpanzee, African wild dog, domestic dog, banded mongoose, caracal, zebra, wildebeest, pygmy hippopotamus, greater kudu, ring-tailed lemur, golden lion tamarin, chacma baboon, macaque monkey, Flemish giant rabbit, Bennett's wallaby, and Long-Even's rat. A total of 18 publications have focused on these non-human animals.
5. With regards to the African elephant, we documented the types of neurons in both the cerebral cortex and in the cerebellum, a part of the brain involved in balance, body control, and coordination. This research was conducted on adult and newborn elephants—resulting in a total of 4 publications focused exclusively on the elephant brain, which had not been explored previously. In addition to academic publications, I have presented these results at several scientific conferences (e.g., Society for Neuroscience, Performing Animal Welfare Society), and have written summaries of this research for the online publication known as "The Conversation" (https://bit.ly/2AVv6o6; https://bit.ly/3JPuCBQ).
6. My Curriculum Vitae fully sets forth my educational background and experience and is attached as "Exhibit A."

Basis for opinions

7. My early interest in brain research involved using the research techniques of Dr. Scheibel to extend both his and Dr. Diamond's interest into the effects of the environment on the brain. Dr. Diamond was a pioneer in documenting the effects of an impoverished and enriched environment on neuroanatomy in non-human animals; my dissertation extended that to the human brain, where we found education related differences in the neurons of the cerebral cortex. Specifically, individuals with a university education had more complex neurons than individuals with a high school or less than high school education.

8. I have followed this area of research my entire career, including when we examined the brains of both free and captive animals. As such, several decades of neuroscientific research has led me to several conclusions about the state of the brain in captive non-human animals, particularly with regard to long-lived, large-brained mammals such as elephants.
9. One of the main findings of our elephant cortex paper (Jacobs et al., 2011) was that pyramidal neurons in the elephant are just as complex as similar neurons in the human cortex. As is the case in humans, these neurons are also more complex in the frontal lobe, involved with higher cognitive function, than in the occipital lobe, involved in the early processing of incoming visual information. There are remarkable parallels in terms of overall complexity of neurons and the functional involvement of these neurons. One difference was noted between the cortical neurons in the African elephant and in humans—those in the African elephant appear to extend their branches more broadly than neurons in the human, which tend to be more compact. As such, elephant neurons sample a very wide array of information because of the length of their dendrites. This broad synthesis of information in the African elephant may contribute to their contemplative nature—elephants often appear to be examining their surroundings and thinking very deeply about what is going on around them. They have the leisure of their great size and few natural predators, which allows them to consider their decisions very carefully. Primate cortical neurons, by contrast, seem more designed for quick responses to the environment. This contemplative aspect of the elephant further supports the findings expressed below with regards to how their brain responds to captivity.
10. I co-authored a recently published comprehensive review article on the neural consequences of impoverished environments for elephants and cetaceans (Jacobs et al., 2021; https://bit.ly/3JLjEgz). This review article forms the basis of the opinions expressed in this declaration.
11. Free elephant are autonomous beings in their natural habitat, travelling many kilometers a day as they forage on a very wide variety of food. They live in large, complex fission-fusion social environments (composed of families, bond groups, and clans) with defined roles for each

member of the society (https://bit.ly/2m3yWVf). Each elephant has his/her unique personality, which affects how they interact with each other. Communication among conspecifics is complex as they have very refined acoustic abilities (both vocal and seismic). Cognitively, they have sophisticated brains that are well-adapted to their complex social world and to an ever-changing environment. They clearly are sentient, self-aware, contemplative beings who think carefully about the decisions they make. They exhibit the hallmarks of culture, with shared knowledge being passed down across generations. In their natural habitat, elephants are dignified creatures with few natural predators—the result of millions of years of evolution within their native ecosystems. Keeping them in captivity—especially in solitary confinement—is at best unethical, and inhumane. More accurately, it is simply barbaric as it robs them of any autonomy and reduces a naturally noble creature to an empty shell, a tortured, artificial artifact.

General Observations

12. In addition to a rather large list of well-documented physical ailments (Riddle & Stremme, 2011) and behavioral abnormalities (Greco et al., 2017) that afflict elephants in captivity, extensive neural consequences to an impoverished environment have been demonstrated in many species to date: mice, rats, rabbits, cats, and primates, including humans (Jacobs et al., 1993, 2021). No research of this nature has been completed on elephants as these are post-mortem studies and would therefore require killing of the animal; as such, we extrapolated from controlled scientific studies with all evidence suggesting that the brains of animals such as elephants would not "behave" any differently than the brain of any other mammal, including humans. There is a great deal of evolutionary continuity across the brains of the species that have been examined, which makes this a very logical extension of the existing research. Indeed, much of what we know about the neuropsychiatric consequences of chronic stress in humans derives from nonhuman animal models (Lecorps et al., 2021).

13. Over 60 years of neuroscience research indicates that an impoverished environment negatively affects the cerebral cortex (Diamond et al., 1964; Diamond, 2001). These effects include a

thinner cerebral cortex, decreased blood supply), smaller neuronal cells bodies with few glial ("helper") cells for metabolic support, decreased dendritic branching for synthesizing information, fewer dendritic spines (indicating fewer connections with other neurons), and smaller, less efficient synapses. Additional studies reveal similar epigenetic-related deficiencies at the molecular (van Praag et al., 2000) and neurochemical (Kozorovitskiy et al., 2005) level throughout the brain. These changes at the cortical level are associated with deficits in an animal's emotional and cognitive functioning (Neidl et al., 2016).

14. A crucial component to an enriched environment is exercise (Basso & Suzuki, 2017), which not only increases the supply of oxygenated blood to a metabolically expensive brain, but also contributes to potential neurogenesis and enhanced cognitive abilities through a series of complex biochemical cascades (Horowitz et al., 2020). Large, captive mammals are severely deprived of the exercise component of enrichment, particularly when one realizes that elephants naturally travel tens of kilometers a day (sometimes more than 100 kilometers) across diverse terrain with numerous plants and various substrates, something they cannot do in the small, monotonous enclosures that typify zoo exhibits (Holdgate et al., 2016). Not only do elephants in larger enclosures exhibit lower glucocorticoid metabolite concentrations than their cohorts in smaller enclosures, but they also exhibit lower cortisol (stress hormones) levels when they can access diverse enrichment options and are allowed to be in compatible social groups (Brown et al., 2019). In Asian elephants, cortisol levels negatively correlate with locomotion and positively correlate with stereotypies (Schmid et al., 2001). Overall, these findings imply that cortical neurons in impoverished/captive animals are less complex, receive less metabolic support, and process information less efficiently than cortical neurons from animals in an enriched, more natural environment (Rosenzweig & Bennett, 1969).

15. Two other brain areas are affected negatively by a captive/impoverished environment because such an environment severely constrains or even prevents the natural behavior of animals, resulting in chronic frustration, boredom, and stress. Two subcortical (beneath the cortex) brain structures negatively affected by such stress are the hippocampus, involved primarily in

declarative (i.e., facts and events) and spatial memory formation, and the amygdala, involved in emotional processing. Decades of neuroscientific research in the laboratory and in the field (Sapolsky, 2005) have demonstrated that prolonged stress results in chronically elevated levels of glucocorticoids (stress hormones) (Sapolsky, 1996). Chronic exposure to these stress hormones contributes to wide-ranging neurodegeneration (Vyas et al., 2016), including neuronal damage/death in the hippocampus (Sapolsky et al., 1990), resulting in memory deficits, and in the amygdala (McEwen et al., 2015), resulting in emotional processing deficits. In natural environments, the body's stress-response system is designed for quick activation to escape from danger; in captivity, there is no escape. In captivity, animals have an almost complete lack of control (Sapolsky, 2012) over their environment. The resulting, chronic stress tends to inhibit the immune system (Schedlowski & Schmidt, 1996), with negative health and neural consequences (McEwen et al., 2015). Under chronic psychological or physical stress, pro-inflammatory cytokines are released by activated immune cells and can interact with multiple corticolimbic brain structures, dysregulating different growth factors and neurogenesis, several neurotransmitter systems, and neuroendocrine communication (Capuron & Miller, 2011). Moreover, animals kept in social isolation exhibit increased aggression and depression like symptoms (Miura et al., 2002).

16. Stress from captivity often fosters learned helplessness and conditioned defeat (Maier & Seligman, 2016), which involves the amygdala (Hammack et al., 2012) and broad dysregulation of the neurotransmitter serotonin (Maier & Watkins, 2005). Under similar conditions (Chugani et al., 2001), stress is associated with a variety of neuropsychiatric diseases in humans, such as anxiety/mood disorders (Zhang et al., 2018), including major depression, and post-traumatic stress disorder (PTSD) (Koenigs & Grafman, 2009). Current human research, in fact, suggests that childhood trauma may subsequently make the adult brain more vulnerable to maladaptive stress responses (Banihashemi et al., 2020), an issue particularly relevant for long-lived, highly social animals such as elephants and cetaceans born into captivity. One neural consequence under such conditions is microglia activation and a

sustained release of inflammatory mediators (Leszek et al., 2016). Subsequent neuroinflammation contributes to physiological, behavioral, affective, and cognitive disorders (de Pablos et al., 2014; McLeod et al., 2001). To the extent that captivity induces stress-related immuno-suppression, captive animals are thus more susceptible not only to neuroinflammation but also to opportunistic infections and possible disruptions of fertility (Edwards et al., 2019). Given the highly conserved (Nikolova et al., 2018) nature of neural structures (i.e., brains have a lot in common across species), there is no logical reason to believe that the large, complex brains of animals such as elephants (Jacobs et al., 2011) would react any differently to a severely stressful environment than does the human brain.

17. Captivity and the psychosocial stress it engenders, has negative effects on complex circuitry between a subcortical collection of nuclei (groups of neurons) known as the basal ganglia and the cerebral cortex. Through a series of reciprocal connections, the basal ganglia select and orchestrate appropriate cortical activity for a given situation, including the two pathways involved in movement: the direct pathway and the indirect pathway. The direct pathway tends to be involved in generating movement/behavior whereas the indirect pathway is more crucial for inhibition of movement/behavior. Normal movement depends on a delicate balance between these two pathways. Stereotypic behavior resulting from stress has been documented in a large number of species (e.g., poultry, rodents, pigs, voles, cows, sheep, dogs, horses, and primates, including humans) and is invariably associated with an imbalance in the direct/indirect pathways (McBride & Parker, 2015). More specifically, the indirect pathway is suppressed as a result of dysregulation of two neurotransmitter systems, dopamine and serotonin (Langen et al., 2011). Such behavioral stereotypies may represent a coping strategy as the animal attempts to mitigate the overwhelming effects of psychosocial stress (Poirier & Bateson, 2017). It is worth noting that elephants, in their natural habitat, have never been noted to have exhibit such stereotypies, which reflect underlying (abnormal) disruption of neural mechanisms.

18. Stereotypies are common human and non-human responses to chronic stress. Children with a history of early institutional care are more likely to exhibit stereotypies, underscoring the influential role of the environment during early development (Bos et al., 2010). In nonhuman animals, such behavioral stereotypies are seldom if ever observed in nature (Boorer, 1972), but have been consistently documented in many captive animals beyond murid rodents. Chronic stress also creates heightened dopamine sensitivity in the nucleus accumbens, which is part of the mesolimbic pathway associated with motivation (Cabib, 2006). Environmental deprivation and social isolation have repeatedly been shown to dysregulate these motor control pathways in several species, resulting in stereotypies (Martin et al., 1991; McBride & Hemmings, 2005). By extension, comprehensive environmental enrichment appears to rebalance activity in these pathways, thus at least partially ameliorating or even preventing the emergence of stereotypies. Comprehensive environmental enrichment appears to prevent stereotyped behaviors by increasing metabolic activity in the motor cortex, the striatum, and the nucleus accumbens (Turner et al., 2002).

General Summary

19. Long-lived individuals with large, complex brains integral to their intricate sociobehavioral existence cannot function normally in captivity. The neural point of view underscores the sociobehavioral assessment of elephant needs. Physical and behavioral abnormalities are easy to observe, but one must look deeper to see the neural consequences. Evolution has constructed the brain—of all organisms—to be extremely and exquisitely responsive to the environment (for better and worse). This responsivity extends to the level of gene expression, meaning that the environment can turn on or turn off different genes (Sapolsky, 2017). As such, the captive environment we place animals in significantly and sometimes permanently alters their brains in a negative manner. From a neural perspective, imprisoning large mammals and putting them on display is undeniably cruel.

20. Elephants exhibit behavioral patterns and physical abnormalities similar to those of other mammals in impoverished environments. Moreover, they possess very similar, highly

conserved, neurobiological systems as do other mammals for responding to impoverishment and chronic stress. Therefore, elephants sustain neurobiological insults from living in confined, artificial environments. Insofar as most captive elephants cannot be "rewilded" for scientific and ethical reasons, the case can be made for transferring them to authentic sanctuaries, where they may live in a more natural environment. Authentic sanctuaries report improved physical and psychological health in elephants after their arrival, including decreased frequency or extinction of stereotypies, reduced aggression toward keepers, muscle tone gain, and formation of social bonds between elephants with different social histories, including elephants who were abused, traumatized, or solitary for decades (Buckley, 2009; Derby, 2009). Thus, elephants should either remain free (and protected) or, if already in captivity, they should be released into well-designed sanctuaries—several already exist for elephants; for example in Tennessee (https://elephants.com/) in Georgia, (https://bit.ly/3QnLbWZ), in Northern California (https://bit.ly/3WVMr5P), and in Brazil (https://bit.ly/3k4K1na).

Observations specific to the elephants in the Fresno Chaffee Zoo

21. My observations here are based on available videos of the Fresno Chaffee Zoo (Fresno Zoo) and reports on the three elephants (e.g., Nolwazi, a 27-year-old female; Amahle, a 12-year-old female, daughter of Nolwazi; Mabu, a 32-year-old male) confined therein (videos and reports found here: https://bit.ly/3ZsFeMA).

    a) **Social instability:** The continuing social instability at the Fresno Chaffee Zoo is probably one of its most serious shortcomings. Since 2017, there have been three elephant deaths at the zoo (Amy, age 30 years; Miss Bets, age 11 years; Kara, age 42 years)—note that the average life expectancy for free-roaming African elephants is between 41-56 years, with ~5% of individuals living to be over 65 years of age (Clubb et al., 2009; Lee et al., 2016). Captive African elephants exhibit a mortality rate that is 2.8 times higher than their free counterparts (Clubb et al., 2008). Also note that Miss

Bets died of endotheliotropic herpesvirus (EEHV), which is particularly prevalent in captivity and is the leading cause of death for young elephants (Perrin et al., 2021)—Amahle was diagnosed with EEHV in 2019. All three elephants at the Fresno Zoo were imported from Africa. Removing animals from their native habitats is extremely harmful because free-roaming elephants tend to live in matriarchal, multi-generational family groups of 2 to 10 adult females and juveniles (Vance et al., 2009). Elephant family groups share a fission-fusion structure, separating and merging with larger groups of up to several hundred elephants (Poole & Moss, 2008; de Silva et al., 2011). In the Fresno Chaffee Zoo, there is only one mother daughter pair, and the ever-changing presence of a male—hardly a complex family group. Because of the complex social world of elephants, socioemotional disruptions have a profound effect on their corticolimbic structures (Mumtaz et al. 2018). Humans subjected to early socioemotional deprivation in Romanian orphanages exhibit several neural deficits, including glucose hypometabolism and white matter abnormalities in limbic and paralimbic structures (including the prefrontal cortex, amygdala, and hippocampus; Chugani et al., 2001; Eluvathingal et al., 2006). Such neural disruptions undoubtedly contribute to an elephant's emotional distress.

b) **Transfers (especially of male elephants):** Mabu was only recently (11/2022) transferred into the Fresno Chaffee Zoo from the Reid Park Zoo in Tucson, Arizona, as another elephant, Vusmusi (18-year-old male) was transferred back to the San Diego Zoo Safari Park (after only two years in Fresno). Mabu has now been transferred at a total of five times since arriving in the United States. Inter-zoo transfers can be disruptive to social life and social bonds. As many as 80% of the elephants in North American zoos have experienced at least one inter-zoo transfer (Prado-Oviedo et al., 2016), often for breeding purposes (not unlike human trafficking in sex workers; note, Mabu has fathered 15 elephants since 2003), but also due to space limitations. Social groups, including family members and closely bonded unrelated females, may be separated for management purposes, making it difficult to maintain relationships or establish new compatible ones (Kurt & Hartl, 1995; Williams et al., 2019). Male elephants, in particular, pose a challenge for captive facilities due to their strength, social needs, aggressiveness, and strong sexual and competitive motivations (Hartley et al., 2019; Lee & Moss, 2009). In North America, most males are held at zoos with females but no other males, restricting social learning from older males and development of appropriate social and reproductive behaviors (Hartley et al., 2019). Subadult males of similar age who are held together in zoos can develop abnormal behaviors due to the absence of the mature male role models they would normally have in nature (Hartley et al., 2019). In the natural habitat, when adult males come into musth, a period of heightened aggression and sexual drive (Ghosal et al., 2013), they increase their range sizes and intermingle with multiple family units as they search for females in estrus (Fernando et al., 2008). By contrast, zoos often restrict musth males to vastly smaller areas, where they have little or no interaction with conspecifics (Kurt & Garai, 2006).

c) **Space and substrate:** The Fresno Chaffee Zoo elephant enclosure, although it was remodeled in 2015, is extremely small, with a usable space of approximately 3 acres. Insofar as elephants in their natural habitat have expansive home ranges, extending from 10s to 10,000 km^2 (Fernando et al., 2008; Bahar et al., 2018), the enclosure space provided here is simply insufficient—especially year after year, decade after decade. Along with the size of the enclosure, it is also obvious that, within a few minutes, the elephants could explore every square meter of their surroundings (https://bit.ly/3ICoLzg). African elephants, in their natural habitat travel across a large variety of terrains as they forage—note that natural foraging itself is composed of over

20 different sociocognitive activities. The Fresno elephants do not have that option. Moreover, the terrain on which they walk appears to densely packed soil and concrete (as illustrated here: https://bit.ly/3VWOipO). Limited space, which restricts movements, coupled with hard surfaces (e.g., concrete, packed soil; Miller et al., 2016), leads to osteoarthritis, which regularly occurs prematurely in captive elephants. Such ailments are associated with pain and joint stiffness, inability to stand, and sometimes leads to euthanasia (Issa and Griffin, 2012; Buckwalter et al., 2013).

d) **Exercise:** Such a small enclosure clearly precludes the Fresno elephants from having adequate exercise. Given that African elephants in their native habitat normally travel ~8-12 km/day, with much greater distances (up to ~50 km/day) being common (Wall et al., 2013; Miller et al., 2016), it is clearly not possible for the Fresno elephant to exercise properly, potentially resulting in obesity and foot problems (Morfeld et al., 2014).

e) **Food:** As is typical in zoo settings, the elephants' diet is entirely dependent on the caregivers, and thus rather limited (e.g., mostly hay supplemented with occasional vegetables). Apart from some natural grass, which is continually kept "mowed" close to the ground by the elephants, there is virtually no natural vegetation. They can see trees, but these appear to be wrapped in wire to prevent the elephants from foraging—a rather frustrating situation, one can easily imagine. In their natural habitat, elephants are highly diverse feeders, consuming more than 100 seasonally and geographically varying food species (e.g., grasses, trees, bark, roots, fruits, and aquatic plants; Dierenfeld, 2006), and spending 60-80% of their waking hours foraging over long distances (Poole & Granli, 2009). A more varied feeding regime would certainly enhance their well-being (Holdgate et al., 2016).

f) **Anthropogenic noise:** The Fresno Chaffee Zoo elephant enclosure immediately adjacent to the SR-99 freeway and major railroad line. Add to this construction noise (from a new exhibit being built) and the noise of human visitors to the zoo and it becomes clear that the elephants are exposed to a variety of anthropogenic (human-generated) noise, much of it at very low frequencies caused by the trains and traffic. Elephants depend a great deal on sound for communication, both vocally and seismically. Their feet have a very high number of Pacinian corpuscles (skin receptors sensitive to vibration), which makes them very sensitive to low frequency (subsonic to human hearing) sounds/vibrations (Bouley et al., 2007). Such an abundance of anthropogenic noise is greatly disturbing to elephants, who may perceive it to be a potential risk/threat (Mortimer et al., 2021). Such noise cannot help but be a relentless source of psychological stress if not acoustic trauma.

g) **Enrichment:** There is little indication that the Fresno elephants are exposed to any kind of broad environmental enrichment. In most zoos, environmental enrichment, when employed, only represents a very limited type of directed enrichment (Markowitz, 1982) and is employed in an attempt to alleviate the specific psychological/behavioral/neural problems arising from the captive, inarguably impoverished environment. They are band-aids, not cures. For the Fresno Chaffee Zoo, holes in the artificial rock, where hay can be "hidden," are supposed to constitute environmental enrichment. Moreover, targeted, ad hoc zoo enrichment remains insufficient for the overall neural health of mammals such as elephants as long as they remain constrained by traditional captive conditions (Latham & Mason, 2010). Here, it is worth noting a couple of additional points: natural environments appear to be better for the emotional health of rats than artificially enriched environments (Lambert et al., 2016), with similar findings in humans (Lambert et al., 2015). A sanctuary would provide the Fresno elephants with a much more natural, and thus enriching, environment.

h) **Stereotypies:** Social deprivation/disruption dysregulates motor pathways, with the concomitant chronic stress contributing to stereotypies. Video evidence indicates such stereotypies in Amahle and Nolwazi. Between ~47% and ~ 85% of elephants in zoos exhibit stereotypies, which can consume up to ~20% of the animal's daily activity (Mason & Latham, 2004; Mason & Veasey, 2010). All elephants in circuses, where chain tethering is common, exhibit stereotypies (Schmid, 1995). Moreover, as noted above, the existence of stereotypies is a direct reflection of the dysregulation of motor control circuitry in the brain, that is, a form of brain damage. In other words, although stereotypies are an observable behavior, they also represent a direct window into a dysfunctional brain.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct:

Signature

1/19/2023

Date

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EXHIBIT 4

COUNTRY OF United Kingdom)

COUNTY OF Oxfordshire) ss :

MUNICIPALITY OF Oxford)

Declaration of William Keith Lindsay

I, William Keith Lindsay, declare as follows:

Introduction and Qualifications:

1. My full name is William Keith Lindsay. I am known more generally by the name Keith Lindsay. I was awarded Bachelor of Science with Honours in Zoology from the University of British Columbia, Vancouver, Canada, in 1974. I completed an MSc in Zoology at the University of British Columbia in 1982, under the supervision of Professor A.R.E. Sinclair, with a dissertation entitled "Habitat selection and social group dynamics of African elephants, in Amboseli Kenya." I received a PhD in Zoology at the University of Cambridge in 1994, under the supervision of Dr. S.K Eltringham, for my dissertation entitled "Feeding ecology and population demography of African elephants in Amboseli, Kenya." I have published over forty scholarly articles related to elephants. My CV, which lists these articles, is attached as **Exhibit A**.
2. I submit this declaration in support of the Nonhuman Rights Project, Inc. (NhRP) for a writ of habeas corpus on behalf of the elephants Nolwazi, Amahle, and Mabu, who are confined at the Fresno Chaffee Zoo (FCZ) in Fresno, California. I have personal and professional knowledge of the facts to which I attest, and I am not a party to the proceedings.
3. I am a natural resources advisor/monitoring & evaluation expert with over 40 years of professional experience in Southeast Asia, Africa, Latin America, the Caribbean, North America and Europe, in planning, conducting and evaluating field projects and in senior administrative and leadership roles. I was a senior staff member at the Oxford-based consultancy, The Environment & Development Group (EDG), during 1994-2013. I undertook a variety of long- and short-term consultancy missions and project work, both independently and with EDG, in project/programme monitoring and evaluation, environmental assessment and land-use planning, community-based natural resource management, protected area monitoring and management, and biodiversity research and conservation. Since 2013, I have been an independent consultant on assignments for

international donor agencies and nongovernmental organizations (NGO) in Africa and Asia.

4. My life-long involvement with elephants began in 1977 when I joined the Amboseli Elephant Research Project (AERP) in southern Kenya. I went on to undertake and complete my MSc and PhD research projects on feeding ecology and population processes, through observational study of free-ranging wild African elephants in their natural environment. I have remained a Collaborating Researcher with AERP, focusing on ecosystem change, elephant ranging, and human-elephant co-existence. There has been cross-over into my professional work; since the late 1980s/early 1990s, I have had elephant-focused assignments in all parts of Africa, including southern Africa (elephant management policies in Botswana and South Africa), Central Africa (regional elephant conservation coordination for the Convention on Migratory Species), West Africa (research on the movements, population structure and habitat requirements of the Gourma elephants in Mali) and East Africa (Kenya's national elephant strategy, woodland habitat conservation in Tanzania). My work in Asia includes community-based natural resource management and conservation in elephant-populated regions of Cambodia and Thailand and promotion of human-elephant coexistence in Myanmar. My current concerns include stopping the international trade in ivory and live elephants through supporting African elephant range states in a coordinated action on CITES (the Convention on the International Trade in Endangered Species) and facilitating dialogue towards resolution of human-elephant land-use conflict, in partnership with practitioners within and between Africa and Asia. For the past 10 years, I have been active in promoting improved well-being for elephants held in captivity in North American, European, and Asian zoos and circuses.
5. My participation in academic groups include as Associate Fellow, 2003-2006, Environmental Change Institute, University of Oxford, and Member, 2009-present, Oxford Centre for Tropical Forests, University of Oxford. I have been a member of the IUCN/ Species Survival Commission's African Elephant Specialist Group (AfESG) during 1992-2001 and more recently from September 2020 to present.
6. Much of my experience with elephant biology derives from my work with African savanna elephants but the fundamental principles of elephant ecology and behavior are applicable to African forest elephants and to Asian elephants. There is extensive literature on all three species, and while there are certainly documented distinctions between them in terms of habitat and food choices, and social behavior and relationships, the similarities due to common phylogeny and physical attributes and needs far outweigh these differences of

detail. Throughout this document, I will simply refer to 'elephants,' but the consequences apply equally to all elephant taxa. The observations herein apply generally to captive elephants as well as those living in the wild.

Autonomy and higher cognition demonstrated in elephants' foraging decisions and use of space

7. As the largest living land animals, elephants have proportionately enormous metabolic requirements and thus the greatest need to find sufficient nutrients for maintenance, growth and reproduction (Christiansen 2004). They are the ultimate generalist herbivores, and they satisfy this ongoing need for nutrition by selecting diets from the diverse vegetation on offer in complex and constantly variable natural ecosystems (Roever *et al.* 2012; Woolley *et al.* 2011; Lindsay 1994). These ecosystems present both foraging opportunities and existential risks from natural and human hazards.
8. To navigate their way through this landscape of potential rewards and threats, elephants have evolved sensory systems and cognitive capacities that allow them to develop and exhibit flexible and responsive decision strategies, appropriate to each individual animal as well as to members of their social groups, to cope and prosper in the face of these multi-layered challenges (Poole & Granli 2009).
9. It has now been recognized that elephants possess complex cognitive abilities comparable in many respects to higher primates and cetaceans. Byrne & Bates (2011) reviewed the findings of research on elephants in the wild and in captivity and confirmed their significant capacity in several areas of physical and social cognition:
    - Physical cognition:
        - Knowledge of environmental spaces and objects
        - Use of tools and understanding of causality
        - Learning to discriminate among features and categories
        - Quantity judgments
    - Social cognition
        - Knowing about others and their interactions
        - Communication and social manipulation
        - Social learning
        - Theory of mind
10. Elephants display a high degree of autonomy in the choices they make throughout their decades-long lives. Several of the aspects of elephants' physical cognition, particularly in

the way they find their way around their natural environment, its rewards and hazards, will be discussed in the sections below.

Foraging strategies: selectivity, manipulation, memory, anatomy and cognitive ability

11. Elephants select items from all parts of plants and a vast range of species in plant communities (Poole & Granli 2009; Lindsay 1994). The major component of biomass in most plants is structural materials, including fibrous stems, branches, and roots. Down the abundance scale, with less fibre and greater soluble cell contents, are leaves and finally the most nutritious plant parts: fruits, seeds and flowers. In order to satisfy their large absolute forage needs, elephants must include in their diets large quantities of coarse plant material and cell walls, with varying degrees of lignification, and relatively smaller amounts of easily digestible material. The relative amounts of digestible plant parts will vary greatly between plant communities, and between seasons in the same locations (Roever *et al.* 2012; Duffy *et al.* 2011).
12. An elephant's foraging strategy must be able to respond to these changes, making use of the best foraging opportunities at any given time and place. These opportunities present themselves in areas of land ranging from tens to many thousands of square miles, depending on the productivity of the plant communities and their spatial extent (Sukumar 2003). In zones that are more stable and well-watered within and between years, large amounts of digestible plants will be more-or-less continuously available and there may be little need to cross more than a few square miles in search of food. In the more arid savannas and semi-deserts of sub-Saharan Africa, the timing and localization of rainfall events is much less predictable between years and their range areas are necessarily much larger, and flexible (Young *et al.* 2009, Duffy *et al.* 2011). Paradoxically, the forests of much of Asia and the African Congo basin provide relatively little food at ground level, with biomass and leaf canopy locked up in treetops. Forest elephants rely on scattered and ephemeral openings in the forest cover and seasonally fruiting trees for their forage (Campos-Arceiz & Blake 2011). To achieve the optimal nutritional intake, elephants must have considerable capacity for spatial and categorical memory of the localities of the plants available in the best foraging sites and their timings within such ranges (Roever *et al.* 2012).
13. There are different components to the predictability of food supplies: some plant communities, such as wetlands, will be continuously productive although with possibly less nutritious/more fibrous food, while others may be temporarily productive only during times of abundant rainfall yet may have highly nutritious plant components. The pattern of food

abundance can change between years, varying between drought and plenty (Birkett *et al.* 2012). In forests, the timing of fruiting varies between different tree species, which are widely distributed and often isolated. Elephants learn all these locations and timings, remember, and recall them when appropriate (Polansky *et al.* 2015). Older elephants retain knowledge of past events and locations of food and water that were appropriate at specific times of drought or plenty, and they teach this knowledge to younger family members (McComb *et al.* 2001).

14. This memory spans years and even decades, and there is evidence that older female elephants in family groups have better survival in droughts than do younger animals, as they lead their companions to the best spots that had been favorable in the past (McComb *et al.* 2001). Areas of the brain active in spatial memory are well-developed in elephants (Jacobs *et al.* 2011). But to make use of this memory, they must also be able to put memories together with sensory information, and make the correct decisions on direction and distance to move (Polansky *et al.* 2015, Jacobs *et al.* 2014).
15. With their highly developed sense of smell, and in combination with hearing thunder, elephants can detect the direction of distant rainstorms that will result in flushes of fresh vegetation (Birkett *et al.* 2012). Olfactory areas of the elephant brain are also highly developed (Jacobs *et al.* 2014).
16. The location of other necessary resources, and their spatial and temporal availability, are searched for, monitored, remembered, and recalled. An elephant must drink large amounts of water at least every few days. Thus they must find sources of clean water for drinking. Other resources include: water or mud for cooling/wallowing; minerals - if they cannot be found in vegetation, then areas of salty soil or rock ('salt-licks') must be located; and shelter, such as tree canopies, for relief from the sun during the heat of the day (Boult *et al.* 2019).
17. Elephants' bodies are adapted for covering large distances. The average distance of ground covered per day is a remarkably consistent at ±10km in 24 hours (reviewed in Miller *et al.* 2016). This figure has been documented across very different biomes, from arid deserts, through different semi-arid savanna types, to moist tropical forests (Douglas-Hamilton 1998, Leggett 2009, Wall *et al.* 2013, Wyatt & Eltringham 1974, Merz 1986, Galanti *et al.* 2000). There is, however, a wide range in distance traveled in any given day, from less than 1km when foraging locally to 30km or more of directed movement.
18. To cover this ground, elephants must have long legs, and as longer legs evolved, this has required the simultaneous evolution of foraging anatomy that can reach from ground to mouth. Modification of a prehensile upper lip has led to the development of the trunks seen

today (Shoshani 1998), which are also a highly specialized organ useful not only for feeding, but also for drinking, olfaction, grooming, social signaling, and other motor functions.

19. Studies of foraging elephants (*e.g.* Guy 1976, Short 1981, Lindsay 1994) have documented that a wide range of food items are chosen from hundreds of species of plants, including fruits, buds, leaves, climbing shoots, flowers, growing stems, woody stems and branches, bark, and roots. Because it is abundant and easy to pluck/harvest, grass forms a significant portion of elephants' diets when it is available and abundant. All grass parts - flowers/ seeds, leaves, stems, and roots - are eaten, as and when each is most nutritious at the time of year and growth stage. Each item of food requires specific processing and handling, to select the most nutritious, digestible bits and discard the less digestible parts or those holding soil or other contaminants (Poole & Granli 2009).

Use of trunk, other body parts and tools

20. The musculature of the trunk requires millions of sensory and motor nerve connections, and the trunk is capable of both immense strength and fine control in selecting, picking up, and moving objects in the environment. Elephants use their trunks in extremely dexterous manipulation of food items, analogous to the human hand in its ability to handle objects with delicate control, with the added quality of olfaction (Rasmussen & Munger 1996). As in humans, the evolution of this manipulation organ required accompanying neural development (Onodera & Hicks 1999).
21. Other food preparation techniques include the lifting and moving of branches to reveal lush grass beneath. Such adjustment of the local environment implies a deeper understanding of the localization of plant productivity. Elephants also use other body parts to process food items. Tusks are used in different ways: to cut grass stems, break twigs and branches, carve bark from trees, dig for roots or water. Feet are used in kicking up roots, crushing, or flattening thorns (Poole & Granli 2009).
22. Tools may be fashioned from tree branches and used to pry into bark or dig salty soil from ground sources. Tools in the form of branches serving as 'back scratchers' are also used for grooming, and matts of vegetation may be used as sunshades (Hart *et al.*2001).

Acute awareness of and response to risk factors in the environment

23. Elephants have a keen awareness of risk factors in their environment and they make swift assessments and take appropriate responses. Predation is a key risk. Very young calves are

vulnerable to attack by lions, and when these predators are detected, all family members are cooperatively protective; alerted by a specific alarm call, they will rush to protect the calf and chase away the predator. Older females in particular show rapid and appropriate responses (McComb *et al.* 2011).

24. The primary risk to elephants, however, is human beings. There are two ways that this presents itself: through competition in the way they use land and through killing for the ivory trade (Thouless *et al.* 2016). In land use competition, elephants can themselves come into conflict with human groups who practice both agriculture and livestock husbandry.
25. Elephants are displaced when their previously available wild habitat is converted to agriculture or settlement (Mmbaga *et al.* 2017). When this happens, there is active competition for the use of those fields, particularly when the plants in fields are more attractive to elephants than the vegetation on offer in natural habitats. Elephants make the rational foraging choice of preferring these more nutritious food sources to many of their natural foods that are declining in quality (Osborn 2004). Elephants also come into direct conflict with livestock owners who may also be semi-mobile pastoralists. There is more scope for the sharing of livestock grazing lands, but the key points of conflict are at waterpoints. Again, there is injury and mortality on both sides of this conflict (Kuriyan 2002).
26. There is very rapid learning by elephants of the dangers posed by these potential conflicts. One way that they avoid the conflict is to change their movement and foraging patterns to times of day when people are less active. Typically, this is at night. Elephants' 'raids' into agricultural fields are most common at night, as are visits to livestock waterpoints. If there is a protected area (national park or other designated wildlife protection zone) in the vicinity, elephants will retreat into it during daylight hours and emerge at night into the surrounding lands (Douglas-Hamilton *et al.* 2005). Evidence from radiotracking of elephants shows that they move much more quickly through landscapes they share with humans, from one zone of perceived relative safety to another (Graham *et al.* 2009).
27. Killing of elephants by rural villagers or armed gangs for their ivory is a much greater threat to elephants in the immediate term. Elephants can detect alarm calls from some considerable distance and avoid the area where killings take place (O'Connell-Rodwell & Wood 2007). Again, they seek the refuge provided by protected areas when they are secured by wildlife agencies.
28. There is clear evidence that elephants' response to humans is based on an ability to distinguish the risk posed by different human groups. Playback experiments show that this

is mediated by vocal cues – they can recognize and respond to the sounds of Maasai warriors as distinct from that of women and children, and other ethnic groups, and respond with a flight response to the former but not the latter McComb *et al.* 2014). There is a similar ability to differentiate among types of humans through visual and olfactory cues (Bates *et al.* 2007).

Human-elephant conflict transformed to coexistence through negotiation

29. Many different attempts to mitigate or eliminate human-elephant conflict have been attempted over the past decades. Several of these have involved aggressive deterrence methods or hard barriers. But they have been met with mixed success, in large part because elephants are able to respond and find ways around them. The most effective responses to such conflicts treat elephants as autonomous and sentient beings and work with their biological nature to achieve solutions that promote coexistence rather than conflict (Shaffer *et al.* 2019).
30. One commonly used approach has been to try to scare elephants when they enter fields, with the use of firecrackers, 'thunderflashes', or shots from guns. While these measures may work in the short term, elephants soon discover that the noises are localized and generally nonlethal. Their use, however, does make the elephants more fearful and, thus, potentially more aggressive in their approach to humans (Davies *et al.* 2011).
31. Electric fences are erected by people to keep elephants out of crop fields (e.g. Kioko *et al.* 2008). Elephants, while initially deterred, respond to the hazard of electric shocks by handling the 'hot' wire with non-conducting tusks; they are then able to snap the wire and enter the field. They may also break fences by pushing other elephants into them; both these approaches demonstrate higher cognitive ability and autonomy. But it is the use of branches and logs as tools to break fences that is their most impressive feat. And these techniques, once discovered are rapidly copied and replicated by other elephants, a form of cultural transmission. The use of these fences, which deliver a powerful shock, also make elephants more aggressive and more likely to attack humans in retaliation.
32. More effective fences have been developed that recognize elephants' natural aversion to pungent plant products, such as chillies (Osborn 2002), and to the stinging attacks of honey bees (King *et al.* 2017). Fences using these more natural approaches have the additional advantage of providing a livelihood supplement to the farmers. A fence system that startles elephants with strobe lights, rather than alarming noises, has also proven effective; indeed, several of the described methods are more effective if used without noise-makers (Davies

et al. 2011). Early warning systems, where observers share information about the presence of elephants in an area or near contested sites, have allowed more targeted, preventive approaches for reducing damage to human life, property, and livelihoods (Sugumar *et al.* 2013, Graham *et al.* 2011).

33. As noted above, it is now increasingly recognized by conservation workers that elephants are autonomous and sentient beings, and that coexistence can be achieved by people entering into 'negotiation' with elephants (Shaffer *et al.* 2019). Such programmes have reduced the use of aggressive methods that serve only to escalate the tension between humans and elephants and increase the potential for mutual harm. Instead, they emphasize more positive approaches that work with elephants' perceptions and decision-making, allowing them some autonomy in their movements and feeding choices, while at the same time protecting human interests (e.g. Songhurst *et al.* 2016).

Summary of elephants' intrinsic cognitive qualities and needs based on their use of space

34. Elephants, in their detailed understanding of, and carefully tailored responses to, the challenges of their natural habitats, demonstrate a deep degree of autonomy, sentience, and judgment in their foraging and movement strategies. The strategies for flexible, reactive problem-solving and decision-making make use of elephants' highly developed anatomical, sensory, and cognitive adaptations and abilities, and are fine-tuned over decades of experience in navigation of environments with both predictable and unpredictable elements. The experiences gained over a lifetime are then shared between members of their strongly bonded social groups through example, teaching, and learning. When we recognize that these qualities of elephants are deeply ingrained through millennia of evolutionary selection and adaptation to their particular native ecosystems, we must inevitably move from a position of conflict with and domination towards a coexistence with and appreciation of them as creatures deserving of autonomy to the greatest extent possible in appropriate environmental conditions.

Observations on minimum standards for captive elephants

35. It is instructive to consider some of the so-called "standards" for the husbandry of elephants held in captivity that have been developed and modified over time by different zoo associations and other concerned groups. A discussion of these standards, in comparison to the actual needs of elephants, is presented below.

36. The Standards of the American Association of Zoos and Aquariums (AZA 2022) specify the following minimum acceptable spatial areas for indoor and outdoor enclosures for its member zoos:

- Indoor: Females – 37m^2 (400 square feet) per animal; females with calves – 56m^2 (600 sq.ft.); Males – 56m^2 (600 sq.ft.)
- Outdoor: Females and males – 500 m^2 (5,400 sq.ft. or 0.12 acre).

The AZA standards also specify minimum figures for size and composition of social groups:

- Females: 3 adult females; Males: 2 adult males; Mixed group: 3 adults of either sex.

37. For the purpose of comparison, it is worth considering the current standards of the British and Irish Association of Zoos and Aquariums (BIAZA 2019). They go some way beyond AZA standards, having increased steadily over recent years, and include:

- Indoor: Females – 300m^2 (3,229 square feet) for up to and including 4 females; additional females 80m^2 each (861 sq.ft.); Males – 160m^2 each (1,722 sq.ft.)
- Outdoor: Females and males – 3,000m^2 for any shared space (32,290 sq.ft. or 0.75 acre); this is a minimum and a much larger space for 5 or fewer females and males of 20,000m^2 (4.9 acres) is considered desirable.

The BIAZA Standards minimum figures for size and composition of social groups are:

- Females: 4 compatible adult females; Males: at least 2 adult males of different ages in bachelor groups and with the opportunity of mixing with females.
- All elephants must have the option to get away from other elephants if so desired, through use of space and visual or physical barriers in the enclosure.

38. The "Best Practice" guidelines developed by the Coalition for Captive Elephant Well-Being (Kane *et al.* 2005), which were the result of a meeting attended by elephant husbandry and welfare experts and zoo professionals at Tufts University in 2004, are intended to take greater cognizance of elephant biology. They recommend the following minimum conditions for space:

- Indoor: Females – 60m^2 (645 sq.ft.) per animal, overnight; 185m^2 (1,990 sq.ft.) per animal in winter quarters (i.e. longer term); males – 110 m^2 (1,184 sq.ft.) overnight; 320m^2 (3,444 sq.ft.) winter quarters

- Outdoor: Females and males – Sufficient to allow walking of 10 km (6.2 miles) per day.

and for social groups and companions:

- African savanna elephants: 10 individuals; African forest elephants and Asian elephants: 5 individuals
- Females; related animals and socially bonded animals never separated; Males: separated from their maternal group only by or after sexual maturity (10 years or older); Sub-adult and adult males: separate facilities, including separate night quarters and yards for male elephants, as well as the option of common housing and yards for males and females.

39. The fundamental biological needs of elephants have been established by the extensive scientific research undertaken thus far on the living elephant species in their natural ranges, as described in part above. A comparison between the sets of standards summarised above with each other, and with the evidence from elephant biology, makes it clear that the minimum standards adopted by the AZA for zoos located in the United States are weaker than both those of the United Kingdom and of the Coalition elephant welfare experts, which are themselves also inadequate. Furthermore, they all fall far, far short of fulfilling elephants' requirements for space in both indoor and outdoor facilities (in fact, by several orders of magnitude). The AZA standards for social conditions are equally inadequate. These guidelines appear to be a compromise between the actual needs of elephants and the financial and logistical difficulties faced by AZA member zoos in meeting such requirements, with the balance tilted firmly towards the latter criteria.

Information sources and observations of Nolwazi, Amahle, and Mabu at the Fresno Chaffee Zoo

40. Nolwazi and Amahle are female African savanna elephants, aged approximately 27 and 12 years old respectively. Mabu is a 32-year-old male African savanna elephant. The three elephants are currently at the Fresno Chaffee Zoo. Their history and observable present state indicate that they have led lives with only limited ability to exercise their autonomy. In relation to the quality of their lives in captivity, I have studied the following information sources:

Satellite imagery

- A satellite image on Google Earth Pro (©2021; version 7.3.4.8248) accessed on 22 February 2022, showing the Fresno Chaffee Zoo elephant exhibit. Zooming and moving around this image allowed visual inspection of the elephant enclosure and its features. I made use of the Ruler tool for measuring linear distances and areas of polygons to estimate the dimensions and size of the main elephant enclosure, the shade screen, and the wading pool.

Documents

- A Word document provided by the NhRP, with publicly available hyperlinks, summarising the location and management of the Fresno Chaffee Zoo and its elephant exhibit, along with the history of Amahle, Nolwazi, Mabu, and others that have been held at the Zoo. Available at: https://bit.ly/3tYWvhe.
- A presentation on the discovery and treatment of EEHV infection in two elephants at Fresno Chaffee Zoo (Nodolf & Presley 2020), one of which died (Miss Bets) and one which has survived – so far (Amahle). Available at: https://bit.ly/3vZSzQ6.

Websites

- Facebook post: Video clip "Stomp & Chomp" 2020. Elephant feeding on pumpkins. Available at: https://bit.ly/3CKddoz.
- Tiktok posts: 2 clips of a male elephant at the Fresno Chaffee Zoo. Available at: https://bit.ly/3tQybOC and https://bit.ly/3t9vF73.
- YouTube videos: 2 videos. Available at: https://bit.ly/3Ja0U7x, and https://bit.ly/3JckyzM.
- KSEE24 news item showing the arrival of Amahle and Nolwazi. Available at: https://bit.ly/3i8dZlL
- Zoophoria interview with the designer of the current elephant exhibit (Ponti 2017). Available at: https://bit.ly/3JcHuPq.
- The Elephant Database. A database that attempts to collate information on all elephants held in captivity worldwide. Its accuracy depends on the information supplied by informants and should be viewed with a healthy critical eye. Available at: https://www.elephant.se/.

Photographs and video clips

- One hundred eighty-two (182) image files (in *.jpg format), showing aspects of the elephant compound, the elephants Amahle and Vusmusi (a male elephant held captive at the Fresno Chaffee Zoo from 2015 to 2022), and the interaction of Vusmusi with zoo staff. Available at: https://bit.ly/3t9ZhB3.

- Twenty-six (26) short video clips (*.MOV format) of varying length (3-31 seconds), showing zoo visitors. Available at: https://bit.ly/3t9ZhB3.

Information on the elephants held at Fresno Chaffee Zoo: present and past

41. Mabu (also known as Mabhulane) was born around 1990 in the Kruger National Park in South Africa. He was captured and moved as a young juvenile to a fenced portion of Mkhaya Game Reserve, eSwatini (formerly Swaziland), in 1994, along with several juvenile elephants who were survivors of a culling operation that killed their mothers and other family members. In 2003, along with ten other wild-born elephants in Mkhaya GR and Hlane National Park, he was exported from eSwatini to zoos in the United States. The justification given for this transfer was that the reserves in eSwatini were said to be overpopulated and the elephants would have been culled, but this was a fiction that was useful to both the wildlife managers and the importing zoos. In reality, the management authorities simply wished to thin the elephant numbers in the small fenced areas where elephants were kept within the much larger reserves, and at the same time earn some revenue (Siebert 2019).
42. Since his arrival in the United States, Mabu has been repeatedly used in the AZA's captive breeding program and has fathered 15 offspring. He has been transferred back and forth between AZA-accredited facilities to breed with six different female elephants, who all share a similar history of capture from Kruger NP, movement to eSwatini, and export to the US in 2003. He was held captive to breed with the females at the San Diego Zoo Safari Park in Escondido, CA from 2003-2012 when he fathered 11 offspring over 9 years, and again in 2016-2018 when he fathered two more calves with two of the same females. He was moved to the Reid Park Zoo in Tucson, AZ fathering one calf there in 2012-2016 with a female who had already had two offspring with him before she was moved from San Diego. In 2018-2022, he was returned to Reid Park, where he mated again with the same female, who duly produced another calf.
43. The movement of Mabu between zoos for breeding purposes is standard practice for the industry's treatment of male elephants. A review of the histories of many, if not most, male elephants in zoos recorded on the Elephant Database reveals a pattern of continual transfers from location to location. This regular forced movement is depicted as "natural" by the zoo

industry. The recent relocation of Mabu was justified (Grubb 2022) in these terms: "*In the wild, male elephants commonly move between herds for social and breeding purposes. Mimicking this natural behavior, Reid Park Zoo's bull elephant Mabu has a new home at Fresno Chaffee Zoo*." But in reality, such removal to unfamiliar surroundings disrupts any social bonds that may have formed between males, and between males and females, at particular location. In the wild, male elephants form bonds with other males and regularly visit both their natal families and other female social groups, remaining in social contact throughout their lives (Lee *et al*. 2011).

44. Mabu has a history of aggressive behavior towards both female and male elephants. He is thought to have killed a female elephant in 2011 at SDZSP (Steele & Jones 2011). Such lethal events are never seen in the wild, where there is the space for elephants to avoid unwanted attention or even attacks by simply moving away. There is the potential for such undesirable social interaction at FCZ, given the limited space – see below – and it could result in injury, or worse. Such an outcome would be unfair for all three elephants.
45. Amahle and Nolwazi were born in a fenced portion of Hlane National Park in eSwatini. Nolwazi is Amahle's mother. In 2016, 13 years after the AZA's first import of wild Swaziland elephants—which included Mabu—there was a second importation for the same questionable reasons as mentioned by Seibert (2019). This time, Amahle and Nolwazi were imported to Dallas Zoo, along with 3 other female elephants from the same population. Two years later, on 20 October 2018, Amahle and Nolwazi were separated from their companions from eSwatini, who remained in Dallas, and they were taken to FCZ to form the nucleus of the Zoo's planned African elephant "family", in the revamped exhibit – see below.
46. In November 2022, Mabu was transferred to the Fresno Chaffee Zoo in Fresno, CA where the zoo plans to breed him with Nolwazi and her daughter Amahle, the fourth time he was moved between US zoos since his transfer from eSwatini in 2003. It seems that the AZA itself has concerns about the potential breeding of Amahle and Nolwazi with Mabu. In their Population Analysis & Breeding and Transfer Plan for African Elephants (Hagan *et al.* 2020), the Matrix on p.10 notes that it would be "very detrimental" to breed Mabu (SB no. 527) with Nolwazi (SB no. 620) or Amahle (SB no. 621). Given this identified risk, it is hard to understand why these elephants have nevertheless been brought together.
47. The longer history of elephant keeping at FCZ is depressingly dismal. It began in 1949, and since then there have been only 12 elephants in total: 5 African and 7 Asian. Three Africans remain alive, while two have died. Four of the Asians were moved on to other

zoos, while the other 3 died at the zoo. There have been no recorded births of any elephants during the entire period from 1949 to the present day.

48. The first elephant to be kept at FCZ was an Asian female called Nosey (not to be confused with the former circus elephant of the same name who is now at the Tennessee Elephant Sanctuary). She arrived at the zoo in 1949 from an unknown wild source at age 3 and until 1981, spent the next 32 years completely alone. She died in 1993 at the age of 47, when she was euthanized after suffering from arthritis, a typically zoo-caused ailment never seen in the wild. A 2-year old zoo-born male Asian was brought in during 1981 and two wild-born females came in 1983, arriving from a small-scale circus trainer in Sarasota. The male died in 1993, while one of the females was euthanized and the other was moved to the LA Zoo in 2017.

49. Three more Asian elephants spent varying times at FCZ. Two wild-born females arrived at the same time in 2003 from Santa Barbara Zoo, only to be sent back a year later. A wild-born male Asian spent 8 years at Fresno during 1995-2003, having been at 4 other zoos and animal traders before then. He was sent to the entertainment-industry supplier Have Trunk Will Travel in 2003.

50. African elephants did not arrive at the zoo until 2015. Two females were brought in during May 2015 from elephant dealers, the Riddle family. Both have since died:
    - Miss Bets – Born in captivity at Riddles' "Sanctuary", she was brought to FCZ at age 7. She was euthanized in 2019, 4 years after arrival at FCZ after contracting EEHV, which was not detected until after autopsy.
    - Amy – Born in the wild, she was brought from Riddles' to FCZ at the same time as Miss Bets. She was euthanized in 2017 after suffering a torn ligament in her right elbow.

51. The deaths of Amy and Miss Bets are indicative of the poor husbandry record at the Fresno Chaffee Zoo. Miss Bets died of EEHV in 2019. Amahle was also diagnosed with EEHV but was successfully treated after intensive veterinary interventions.

52. With the death of Miss Bets, there is now no adult companion for Nolwazi.

The elephant facilities and their management

53. It is clear to me in my professional opinion that the facilities and their management at the Fresno Chaffee Zoo fall short of fulfilling the physical and psychological needs of Amahle, Nolwazi, and Mabu, including the need to exercise their autonomy, in both indoor and outdoor facilities.

54. The elephant exhibit was redesigned and re-built in 2015 under the direction of the Portico Group, who have designed a number of recent zoo exhibits in the US. Information on its features can be found in Ponti (2017). While the architect notes the importance of catering to natural behaviors of wild animals, it is clear that the primary purpose is to "create an experience that was as natural as possible" for zoo visitors, a place that "looks" like a fragment of wild habitat with animals placed within the display. The new elephant exhibit was to replicate a mock African savannah, stocked with elephants that would form a natural-looking "family" of individuals.
55. The location of the zoo is an urban area of mixed use, apparently with light industry and business premises as well as housing. The elephant exhibit is located in the southeast corner of the complex. There are major transportation arteries on all four sides of the zoo grounds, with attendant noise a constant source of auditory disturbance to the elephants. A freeway, the Golden State Highway (State Route 99), runs along the western edge of the grounds, while four-lane roads border the other three sides. These are: N Golden State Boulevard running along the eastern boundary, W Olive Avenue along the northern boundary, and Belmont Avenue on the southern boundary. The N Golden State Boulevard is about 100 yards from the elephant barn, and Belmont Avenue is about 200 yards. There are restaurants and a nightclub located across Belmont Avenue from the elephant enclosure.
56. A double-track railway line, serving both Union Pacific and Burlington Northern & Santa Fe (BNSF) networks, runs along the eastern boundary, about 25 yards to the east of N Golden State Boulevard – 125 yards from the elephant barn – and dozens of trains pass along this line on a daily basis. The local area is thus an entirely unsuitable setting for keeping elephants; it subjects these animals with acute hearing to a sustained sensory onslaught.
57. The indoor and outdoor areas provided to the elephants have been examined with different information sources. Information on the structure of the indoor quarters has been gleaned from an elephant “training” video, available at: https://bit.ly/3KJb3IA. The stalls have flat concrete floors with a thin layer of sand; there is very little cushioning of the hard substrate. This will be hard on the elephants' feet and joints if they spend any significant time indoors. Water is provided in a square box-like trough outside the bars. The walls are flat concrete, with no exterior views; the doors to the outside area are flat steel sheets. Light comes from above, either from artificial lighting or skylights. The walls reflect all sounds, and it is a noisy place.

58. The size of the elephant living space within the barn is estimated, from examination of the Google Earth image of the barn, to be some 60 x 15 yards, or roughly 8,000ft^2. It is not clear how many stalls there are, at what size, or whether the holding stalls are fixed in size, or the separating bars can be adjusted to increase or decrease the space per stall. The Portico Group interview suggested that there was a separate bull barn, but it was not possible to tell from Google Earth whether there was a separate building for this purpose, or whether it was a subdivision of the main barn building.
59. This barn might be physically spacious enough to "hold" the current number of elephants, but only for a few hours of any given day. It is completely unsuitable for keeping them confined for any more than this brief amount of time; confinement for any longer periods is likely to lead to foot and joint damage from standing on the hard substrate, and psychological damage from the noise and the frustration of prevented choice and movement.
60. The size of the outdoor area is said to be 5 acres according to the statements of zoo employees. It is divided into a front and back yard, and has a large pond with a dividing wall down the middle that separates the elephant exhibit from the adjacent exhibit housing rhinos, giraffes and other species. Examination of the Google Earth satellite image indicates that the various sections available to the elephants have the following dimensions:
    - Front yard: 2.35 acres. Long axis = 150 yards; width = 80 yards
    - Back yard: 1.1 acres. Long axis = 110 yards; width = 50 yards
    - Holding compound/ inspection area next to the barn: 0.2 acres
    - Pond to the dividing wall separating it from the adjacent animal enclosure: 0.22 acres

    The total area of the front and back yards and holding compound comes to 3.65 acres. Adding the pond area available to the elephants brings it to a total of 3.87 acres. As noted above, the natural ranges of elephants are much, much larger, by several orders of magnitude. The linear distance available for directional walking is little more than 100 yards, a tiny fraction of the miles that elephants cross on a daily basis in natural environments.
61. In addition, elephants need to be able to choose their own social companions, to avoid antagonism and bond in social groups with compatible others. In an area the size of the current zoo compound, there is little opportunity to form and maintain such separate sub-groups.

62. The management of male elephants in zoos, with their distinct social needs and competitive reproductive behaviour, is a particular challenge that has not been successfully addressed and for which solutions remain elusive (Hartley *et al.* 2019, Schmidt & Kappelhof 2019). Allowing males to live separately from females, in mixed age groups of compatible associates, but to associate at times of their own choosing, is one challenge. A second, arguably more profound conundrum, is the need to separate the sexes to avoid unwanted breeding, and with older males, their seasonal state of musth. The latter involves heightened testosterone levels, more aggressive contesting between males and highly motivated seeking of females with whom to mate (Eisenberg *et al.* 1971. Lee *et al.* 2011).
63. The outdoor area and its management are described below:

- Much of the ground cover is grassy, which is apparently kept green by irrigation (Ponti 2017). It provides a soft substrate for walking but is too short to allow significant grazing by elephants. The terrain is flat and unvarying, offering no stimulation or encouragement to explore. A few boulders are stuck in the ground, including in the passage between front and back yards. While this landscaping may look appealing to the visiting public, the features provide no novelty or variety to the elephants themselves. They do nothing to alleviate the tedium of these sterile surroundings.
- There is some shade provided by trees that were allowed to remain in the compound. The trunks of the trees are protected from the elephants by wire mesh. There are also palm trees, whose bark is not damaged. The trees offer some limited relief from the sun, which is said to be hot during summers in Fresno. As noted, the landscaping appears to be designed more to project a feeling to visitors of a quasi-natural environment, rather than providing anything meaningful to the elephants.
- There are two water features, one large and one smaller. Neither appears deep enough to support elephants' body weight, to take any weight off their feet. An artificial waterfall is another feature of more interest to visitors than to the elephants, as it will have quickly become a part of everyday life. The most that can be said is it provides a source of drinking water.

64. In combination with the bleak appearance and size limitation of the enclosure, there are several deficiencies in its management, including the feeding regime. It appears that oat hay, grain, vegetables, alfalfa cubes, and occasionally woody browse are scattered on the ground or suspended from hooks or baskets. There are also small niches in the mock baobab

tree and wall next to the artificial waterfall where food can be hidden for the elephants to find. None of these "enrichment" efforts would provide much stimulation to the intellect of elephants when compared to natural foraging challenges; elephants would soon grow accustomed to the predictable routine of these food provision modalities. None of this so-called "enrichment" would be necessary, of course, in a natural habitat, or an appropriate sanctuary, with extensive areas of native vegetation.

65. It appears that the elephants are moved into their stalls when zoo staff go off duty, spending at least half his day and probably longer in the close confines of the barn. On cold days, they are kept in the barn all day. As elephants in the wild are actively moving for up to 18 hours of every 24-hour period, this involuntary confinement is both physically and psychologically harmful. It also removes agency from the elephants, depriving them of the basic need to make their own decisions on how and where they spend their time.
66. The handling modality of the elephants by keepers appears to be protected contact, with the keepers giving demonstration shows to the public. Such performance in front of a noisy public is undoubtedly disturbing to the elephants. The behavioral repertoire of the three elephants in the Fresno Chaffee Zoo is extremely limited, widely divergent from that of free-ranging elephants, and indicative of the pathology of zoo husbandry. Observations from the video clips and photographs have informed this conclusion. When the elephants are not simply standing and feeding, they can be seen to walk between the front and back yards on the same path every time. There is no variety in their lives, no challenge to employ their mental capacity for exploration, spatial memory, or problem-solving. There is no opportunity to employ their wide range of vocalisations, to communicate and interact with a range of other elephants over distance.
67. The best that could be said for the current elephants is that they do not appear to have personality conflicts that resulted in aggressive actions between them. It is not clear how much social interaction there is between Mabu and the two females.
68. It is now accepted that elephants experience permanent damage to their brains as a result of the trauma endured in impoverished environments (Jacobs *et al.* 2021). However it is less clear whether this impact is more damaging when the animal has had a longer period of independent, nature-based living before the deprivation; whether the trauma occurs earlier or later in their lives. Most of the elephants currently held in zoos were either born in captivity, or were taken from the wild at a very early age. The two female elephants at FCZ, Nolwazi and Amahle, were removed from the wild at ages 21 and 6 respectively, and

they spent more than half their lives in natural surroundings – for Nolwazi, over three quarters of her life.

69. Drawing from my own experience and from consultation with other elephant experts (J. Poole & B. Jacobs, personal communication), it remains unclear whether the transition to captivity would be more traumatic for a young naïve elephant, or an older animal who has had relatively little experience with captive conditions, and a longer memory of rich natural environments. On balance, both Poole and Jacobs consider it more likely that a younger elephant would suffer more profound damage than an older animal, because their fundamental brain structures are still developing and they would then have a longer period of reinforcing the damage in the impoverished environment of a zoo. However, an older elephant coming to captivity will suffer as well, with depression-like symptoms, frustration and the effects of chronic stress, as they continually compare the current captive conditions with the freedom they had known. This could certainly be very debilitating.

Conclusions

70. On the basis of my review of the sources of evidence I have studied and my analysis in relation to my own extensive professional knowledge and understanding of elephants' undeniable biological needs, I conclude that Nolwazi, Amahle, and Mabu are not being kept in anything close to a satisfactory environment that is consistent with an acceptable life for an elephant.

71. The life of these three elephants at Fresno Chaffee Zoo is nothing but a succession of boring and frustrating days, damaging to their bodies and minds, and punctuated only by interaction with their keepers. Their physical and psychological health has been severely compromised by the sustained deprivation of their autonomy and freedom of movement. They spend at least half, if not more, of each day in a barn with very little cushioning for their feet and joints. When allowed outside, they are unable to walk more than 100 yards in any direction, they have limited shade from the sun, and their artificial water features are not deep enough to allow proper bathing. The elephants receive predictable enrichment activities, are unable to communicate over large distances, and their acute hearing is bombarded by constant auditory disturbances from major transportation arteries on all four sides of their enclosure.

72. A return to the wild is not a likely option for these elephants, as elephants lose knowledge of appropriate foraging and social behavior the longer they spend away from natural ecosystems, and re-learning these skills would be a lengthy process requiring long-term

financial and technical commitment from the translocation managers. However, elephants are extremely intelligent and adaptable animals, and Nolwazi, Amahle, and Mabu could still lead something approaching a normal life if they were removed from the zoo and relocated to a suitable sanctuary of appropriate habitat.

73. My professional conclusions and recommendations are that:

- Nolwazi, Amahle and Mabu should be moved, as soon as possible, to a suitable sanctuary in North America, according to practice that is well-established by sanctuary professionals.
- It is possible that Nolwazi, and Amahle might adapt quickly to a natural environment with interesting terrain and living vegetation, since they have lived for only a few years in the artificial zoo environment. If a return to a sanctuary or natural ecosystem in Africa (TAP 2022) was financially feasible, this would be an even better option for Amahle, Nolwazi, and Mabu.
- Fresno Chaffee Zoo should never be used again to keep elephants captive, for public display or for any other purpose.

I, William Keith Lindsay, PhD, certify under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Keith Lindsay

William Keith Lindsay PhD

Dated: 25 January, 2023

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CORPORATION and JON FORREST DOHLIN

FILED
San Francisco County Superior Court
JUL 11 2022
CLERK OF THE COURT
BY: [signature]
Deputy Clerk

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF SAN FRANCISCO

NONHUMAN RIGHTS PROJECT, INC., on behalf of Amahle, Nolwazi, and Vusmusi, individuals,

Petitioner,

v.

FRESNO'S CHAFFEE ZOO CORPORATION, and JON FORREST DOHLIN, in his official capacity as Chief Executive Officer & Zoo Director of the Fresno Chaffee Zoo,

Respondents.

Case No. CPF-22-517751

[~~PROPOSED~~] ORDER TRANSFERRING MATTER TO FRESNO COUNTY SUPERIOR COURT - Granted

Date: July 11, 2012
Time: 9:30 a.m.
Dept.: 302

Respondents Fresno's Chaffee Zoo Corporation and Jon Forrest Dohlin's "motion for an order transferring matter to Fresno County Superior Court" is granted. Respondents are responsible for the transfer fee.

Respondents bring this motion pursuant to California Rules of Court, Rule 4.552, subdivision (b), which provides:

> (1) The superior court in which the petition is filed must determine, based on the allegations of the petition, whether the matter should be heard by it or in the superior court of another county.
>
> (2) If the superior court in which the petition is filed determines that the matter may be more properly heard by the superior court of another county, it may … without first determining whether a prima facie case for relief exists, order the matter transferred to the other county. Transfer may be ordered in the following circumstances:
>
> … (B) If the petition challenges the conditions of an inmate's confinement, it may be transferred to the county in which the petitioner is confined.

Petitioner argues that this is not a "conditions of confinement" case. To be sure, the petition states that it "does not challenge … the conditions of Amahle, Nolwazi, and Vusmusi's imprisonment. Rather, it challenges the legality of the elephants' imprisonment itself and seeks their discharge from the Fresno Zoo." (Pet., ¶ 17; see also Prayer for Relief, ¶¶ 3-4.) Petitioner also cites to *People v. Romero* (1994) 8 Cal. 4th 728, 743 for the contention that "in habeas corpus proceedings, relief is granted ... by an order or judgment directing the petitioner's release from custody or alteration of the conditions of the petitioner's confinement." Petitioner asserts that it seeks the elephants' release from custody and does not seek to alter the conditions of their confinement.

Respondents argue, however, that the petition "devotes a considerable amount of time to explain the elephants' conditions of confinement, arguing why they are … unacceptable." (Mot., 6:5-7; Pet., ¶¶ 87-92.) The Court agrees and finds little distinction between "conditions" of confinement and "legality" of confinement in this case. Petitioner alleges that any condition of confinement in a zoo is improper for elephants and argues that an elephant sanctuary is the only acceptable location for elephants. (Pet., sec. IV(b) ["Zoo captivity is physically and psychologically harmful to elephants"], ¶¶ 80-86; sec. IV(d), ¶¶ 93-95.)

Furthermore, Rule 4.552(b)(2)(B) requires the Court to make this determination "based on the allegations in the petition," not based on the relief sought (i.e., release from custody or alteration of conditions of confinement). The allegations in the petition certainly challenge the elephants' confinement and the matter should therefore be heard by the Fresno County Superior Court.

DATED: July 11, 2022

LG

The Hon. Richard B. Ulmer Jr.
JUDGE OF THE SUPERIOR COURT

EXHIBIT 6

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E-FILED
10/17/2022 2:06 PM
Superior Court of California
County of Fresno
By: I. Herrera, Deputy

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF FRESNO

NONHUMAN RIGHTS PROJECT, INC., on behalf of Amahle, Nolwazi, and Vusmusi, individuals, *Petitioner,* vs. FRESNO'S CHAFFEE ZOO CORPORATION, and JON FORREST DOHLIN, in his official capacity as Chief Executive Officer & Zoo Director of the Fresno Chaffee Zoo, *Respondents*.	Case No.: 22CECG02471 **NOTICE AND REQUEST FOR RULING (Cal. Rules of Court, rule 4.551(a)(3)(B))** Judge: Mark Cullers Location: B.F. Sisk Court, 1130 "O" Street, Fresno, CA 93724-0002 Courtroom: Dept. 404 Date Action Filed: May 3, 2022

I, Monica Miller, filed a petition for writ of habeas corpus on behalf of Amahle, Nolwazi, and Vusmusi, in the above-entitled case in the Superior Court of California, County of San Francisco on May 3, 2022. On July 11, 2022, the matter was ordered transferred to Fresno County Superior Court where it remains.

As of this date, I have not received a ruling on the petition within 60 days of filing as required by rule 4.551(a)(3)(A) of the California Rules of Court. Therefore, pursuant to Cal. Rules of Court 4.551(a)(3)(B), I request that the court rule on the petition in accordance with Cal. Rules of Court 4.551(a)(4) by either (1) issuing an order to show cause, (2) denying the petition, or (3) requesting an informal response from Respondents to the petition. A copy of the original petition for writ of habeas corpus is attached to this *Notice and Request for Ruling*.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

DATED: October 17, 2022

Nonhuman Rights Project, Inc.

By: /s/ Monica L. Miller

MONICA L. MILLER
STEVEN M. WISE
JAKE DAVIS
Attorneys for Petitioner
Nonhuman Rights Project, Inc. on behalf of Amahle, Nolwazi, and Vusmusi, individuals

PROOF OF SERVICE

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES)

I am employed by Ace Attorney Service, Inc. in the County of Los Angeles, State of California. I am over the age of eighteen (18) years and not a party to the within action; my business address is: 811 Wilshire Boulevard, Suite 900, Los Angeles, California 90017.

On **October 17, 2022**, I served the document(s) as described below:

1. NOTICE AND REQUEST FOR RULING

on the interested parties in this action by delivering a copy of said document(s) to the party listed below:

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[ ] (BY MAIL) I am readily familiar with the firm's practice of collection and processing correspondence by mailing. Under that practice it would be deposited with U.S. postal service on that same day with postage fully prepaid at Los Angeles, California in the ordinary course of business. I am aware that on motion of the party

served, service is presumed invalid if postal cancellation date or postage meter date is more than one day after date of deposit for mailing in affidavit.

[X] **(BY E-MAIL OR ELECTRONIC TRANSMISSION)** I caused the documents to be sent on the date shown above to the email address(es) of the person(s) listed above. I did not receive within a reasonable time after the transmission any electronic message or other indication that the transaction was unsuccessful.

[ ] (BY PERSONAL DELIVERY) I delivered such documents by hand to the office of the addressee.

I declare under penalty of perjury under the laws of the State of California that the above is true and correct. Executed on October 17, 2022 at Los Angeles, California.

Fernando Mercado
PRINT NAME

SIGNATURE

EXHIBIT 7

FILED

OCT 18 2022

FRESNO SUPERIOR COURT

By ______________ DEPUTY

SUPERIOR COURT OF CALIFORNIA, COUNTY OF FRESNO

CENTRAL DIVISION

NONHUMAN RIGHTS PROJECT, INC., on behalf of Amahle, Nolwazi and Vusmusi, individuals, Petitioner, v. FRESNO'S CHAFFEE ZOO CORPORATION, and JON FORREST DOHLIN, in his official capacity as Chief Executive Officer and Zoo Director of the Fresno Chaffee Zoo, Respondents.	Case No. 22CECG02471 Department 404 ORDER RE: REQUEST FOR RULING

Pursuant to Petitioner's Request for Ruling, filed October 17, 2022, and pursuant to California Rules of Court 4.551(a)(4) and (b)(1)(A) the court hereby requests that Respondents to submit a response to Petitioner's Petition for a Common Law Writ of Habeas Corpus no later than November 2, 2022.

IT IS SO ORDERED.

Dated this 18th day of October, 2022

Hon. Mark E. Cullers
Judge of the Superior Court

COUNTY OF FRESNO
Fresno, CA

SUPERIOR COURT OF CALIFORNIA - COUNTY OF FRESNO
Civil Department, Central Division
1130 "O" Street
Fresno, California 93724-0002
(559) 457-2000

FOR COURT USE ONLY

TITLE OF CASE:
Nonhuman Rights Project, Inc. vs Fresno's Chaffee Zoo Corporation

CLERK'S CERTIFICATE OF MAILING

CASE NUMBER:
22CECG02471

I certify that I am not a party to this cause and that a true copy of the:

October 18, 2022 Order Re: Request for Ruling

was placed in a sealed envelope and placed for collection and mailing on the date and at the place shown below following our ordinary business practice. I am readily familiar with this court's practice for collecting and processing correspondence for mailing. On the same day that correspondence is placed for collection and mailing, it is deposited in the ordinary course of business with the United States Postal Service with postage fully prepaid.

Place of mailing: Fresno, California 93724-0002
On Date: 10/18/2022 Clerk, by [signature], Deputy
Julie Yang

Monica Lynn Miller 448 Ignacio Blvd. #284 Novato, CA 94949	David Carrillo Casarrubias Hanson Bridgett LLP 425 Market Street, 26th Floor San Francisco, CA 94105

☐ Clerk's Certificate of Mailing Additional Address Page Attached

EXHIBIT 8

FILED

OCT 19 2022

FRESNO SUPERIOR COURT
By________________ DEPUTY

SUPERIOR COURT OF CALIFORNIA, COUNTY OF FRESNO

CENTRAL DIVISION

NONHUMAN RIGHTS PROJECT, INC., on behalf of Amahle, Nolwazi and Vusmusi, individuals, Petitioner, v. FRESNO'S CHAFFEE ZOO CORPORATION, and JON FORREST DOHLIN, in his official capacity as Chief Executive Officer and Zoo Director of the Fresno Chaffee Zoo, Respondents.	Case No. 22CECG02471 Department 404 ORDER VACATING OCTOBER 18, 2022 REQUEST THAT RESPONDENT SUBMIT A RESPONSE

On October 18, 2022, this court issued an order requesting an informal response in the above-captioned case. The court hereby vacates that order. An order ruling on the present petition will be issued shortly by a judge designated by the presiding judge to rule on petitions for writ of habeas corpus. (Cal.Rules of Court, rule 4.551(a)(3)(A).)

IT IS SO ORDERED.

Dated this 19th day of October, 2022

Hon. Mark E. Cullers
Judge of the Superior Court

COUNTY OF FRESNO
Fresno, CA

SUPERIOR COURT OF CALIFORNIA - COUNTY OF FRESNO Civil Department, Central Division 1130 "O" Street Fresno, California 93724-0002 (559) 457-2000	*FOR COURT USE ONLY*
TITLE OF CASE: **Nonhuman Rights Project, Inc. vs Fresno's Chaffee Zoo Corporation**	
CLERK'S CERTIFICATE OF MAILING	CASE NUMBER: 22CECG02471

I certify that I am not a party to this cause and that a true copy of the:

October 19, 2022 Order Vacating October 18, 2022 Order

was placed in a sealed envelope and placed for collection and mailing on the date and at the place shown below following our ordinary business practice. I am readily familiar with this court's practice for collecting and processing correspondence for mailing. On the same day that correspondence is placed for collection and mailing, it is deposited in the ordinary course of business with the United States Postal Service with postage fully prepaid.

Place of mailing: **Fresno, California 93724-0002**

On Date: **10/19/2022** Clerk, by ______________________, Deputy

Julie Yang

Monica Lynn Miller 448 Ignacio Blvd. #284 Novato, CA 94949	David Carrillo Casarrubias Hanson Bridgett LLP 425 Market Street, 26th Floor San Francisco, CA 94105

☐ Clerk's Certificate of Mailing Additional Address Page Attached

EXHIBIT 9

SUPERIOR COURT OF CALIFORNIA • COUNTY OF FRESNO Civil Unlimited Department, Central Division 1130 "O" Street Fresno, California 93724-0002 (559)457- 1900	*FOR COURT USE ONLY*
TITLE OF CASE: **Nonhuman Rights Project, Inc. vs Fresno's Chaffee Zoo Corporation**	
NOTICE OF TRANSFER OF PAPERS AND PLEADINGS	CASE NUMBER: **22CECG02471**

You are notified that the papers and pleadings in the above entitled case were transferred as follows:

Date of Transfer: 10/19/2022

To Court: **Fresno County Superior Court**
Criminal Division

Fees Paid By: Fees previously paid in 22CECG02471

CLERK'S CERTIFICATE OF MAILING

I certify that I am not a party to this cause and that a true copy of the **Notice of Transfer of Papers and Pleadings** was mailed first class, postage fully prepaid, in a sealed envelope addressed as shown below, and that the notice was mailed at **Fresno**, California, on:

Date: **October 19, 2022** Clerk, by____________________, Deputy
A. Ramos

Monica Lynn Miller
448 Ignacio Blvd., #284
Novato, Ca 94949

Hanson Bridgett LLP
425 Market Street, 26th Floor
San Francisco, Ca 94105