

STATE OF MICHIGAN
IN THE COURT OF APPEALS

NONHUMAN RIGHTS PROJECT, INC., on behalf of Prisoner A (aka Louie), Prisoner B, Prisoner C, Prisoner D, Prisoner E, Prisoner F, and Prisoner G (“DeYoung Prisoners”), Petitioner-Appellant.	
v	No. 369247 41st Circuit Court LC No. 23-17621-AH
DEYOUNG FAMILY ZOO, LLC and HAROLD L. DEYOUNG, Respondents-Appellees.	
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PETITIONER-APPELLANT’S APPENDIX OF
EXHIBITS TO BRIEF ON APPEAL

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Description	Appendix Pages
Judge Mary B. Barglind's December 12, 2023 order dismissing Petitioner-Appellant's Complaint for a Writ of Habeas Corpus	1a-2a
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Exhibits Attached to Petitioner-Appellant's Complaint for a Writ of Habeas Corpus ----- Exhibit 1: Declaration of Jane Goodall, Ph.D., dated August 16, 2023 Exhibit 2: Declaration of William McGrew, Ph.D., dated August 22, 2023 Exhibit 3: Affidavit of Jennifer Fugate, Ph.D., dated November 10, 2023 Exhibit 4: Declaration of Tetsuro Matsuzawa, Ph.D., dated November 10, 2023 Exhibit 5: Declaration of Christophe Boesch, Ph.D., dated November 10, 2023 Exhibit 6: Affidavit of Mary Lee Jensvold, Ph.D., dated November 21, 2023 Exhibit 7: Affidavit of Jake Davis, dated November 20, 2023	132a-490a ----- 133a-174a 175a-229a 230a-257a 259a-321a 322a-396a 397a-478a 479a-490a

PROOF OF SERVICE

STATE OF MICHIGAN, COUNTY OF _____

I certify that on _____ at _____, I personally served the original writ of habeas corpus on _____.

Date _____

Signature _____

Required only under MCR 3.303

ANSWER

STATE OF MICHIGAN, COUNTY OF _____

I, _____, state:

☐ 1. I do not have _____ under my custody, power, or restraint.

☐ 2. On _____ by authority of _____, _____ was ☐ released, ☐ transferred to _____ (exhibits attached).

☐ 3. I have _____ under my custody, power, or restraint under a
☐ warrant charging the prisoner with the offense of _____
☐ commitment
☐ other: _____

issued by _____ . A copy of the document is attached and the original will be produced at the hearing.

I declare that the statements above are true to the best of my information, knowledge, and belief.

Date _____

Signature _____

Title _____

When required by MCR 3.303(L)(2).

NOTICE TO PROSECUTING ATTORNEY

TO: The prosecuting attorney of _____ County

You are notified that the annexed writ of habeas corpus has been issued. _____ is believed to have custody of the prisoner.

Name/Title/Agency _____

Date _____

☐ Prisoner ☐ Attorney/Bar no. _____

Address _____

City, state, zip _____

Telephone no. _____

Caseload Dsp: DS

Crt: C 41 55 Jur: BARGLIND Ref: CLOSE Pub
 Case: 2023 0000017621 AH NONHUMAN RIGHTS PROJ V DEYOUNG FAMILY ZOO,
 Atty: MIKITA - PRO PER Worker:
 File: 12/07/2023 Dispose: 12/12/2023 Reopen: Close: 12/12/2023
 X-Reference: Microfilm Number:

P 001 NONHUMAN RIGHTS PROJECT,,
 Gender:

ATTORNEY: GINNY K. MIKITA
 P 45305 Ph#: 616/866-1218
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D 001 DEYOUNG FAMILY ZOO, LLC
 N5406 COUNTY ROAD 577
 WALLACE, MI 49893
 Gender:

DISPOSED: 12/12/2023 DENIED

D 002 HAROLD DEYOUNG
 N5406 COUNTY ROAD 577
 WALLACE, MI 49893
 Gender:

DISPOSED: 12/12/2023 DENIED

Financial Order History

Ct	Assessment Description	Payer	J/ S	Order Amount	Paid Amount	F Q	Balance
	ELECTRONIC FILING FEE	P 001	N	25.00	25.00		
	SUMMONS AND COMPLAINT	P 001	N	150.00	150.00		
	Totals:			175.00	175.00		.00

Events, Actions, and Judgments

NUM	Date	Jurist	Chg/Party	Clerk
1	12/07/2023		P 001	DB
	COMPLAINT FOR WRIT OF HABEAS CORPUS SUMMONS AND COMPLAINT 150.00 ELECTRONIC FILING FEE 25.00			
2	12/12/2023		D 001	DB
	EX PARTE ORDER DISP: DENIED DENIAL OF PROPOSED ORDER TO SHOW CAUSE (signed 12/12/23) copy to Spencer Lo-Nonhuman rights org			
3	12/12/2023		D 002	DB
	EX PARTE ORDER DISP: DENIED			
4	12/12/2023			DB

PFANKUCM01 UCCVPFK

Iron/Dickinson/Menominee
REGISTER OF ACTIONS

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12/14/23 11:49:29
Pg: 2

Crt: C 41 55 Jur: BARGLIND
Case: 2023 0000017621 AH

Ref:
NONHUMAN RIGHTS PROJ V DEYOUNG FAMILY ZOO,

Caseload Dsp: DS

CLOSE Pub

CLOSE CASE

**** END OF SUMMARY ****

*** END OF REPORT ***

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STATE OF MICHIGAN
CIRCUIT COURT FOR THE 41st JUDICIAL CIRCUIT
MENOMINEE COUNTY

*Nonhuman Rights Project, Inc., on behalf of
Prisoner A (aka Louie), Prisoner B, Prisoner C,
Prisoner D, Prisoner E, Prisoner F, and
Prisoner G (“DeYoung Prisoners”)*

Petitioner

Case No.

Complaint for Writ of Habeas Corpus

v.

*DeYoung Family Zoo, LLC and Harold L.
DeYoung*

Hon.

Respondents.

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Exhibit 1: Declaration of Jane Goodall, Ph.D., dated August 16, 2023 (“Goodall Decl.”)

Exhibit 2: Declaration of William McGrew, Ph.D., dated August 22, 2023 (“McGrew Decl.”)

Exhibit 3: Affidavit of Jennifer Fugate, Ph.D., dated November 10, 2023 (“Fugate Aff.”)

Exhibit 4: Declaration of Tetsuro Matsuzawa, Ph.D., dated November 10, 2023 (“Matsuzawa Decl.”)

Exhibit 5: Declaration of Christophe Boesch, Ph.D., dated November 10, 2023 (“Boesch Decl.”)

Exhibit 6: Affidavit of Mary Lee Jensvold, Ph.D., dated November 21, 2023 (“Jensvold Aff.”)

Exhibit 7: Affidavit of Jake Davis, dated November 20, 2023 (“Davis Aff.”).¹

¹ Mr. Davis’s affidavit contains a thumb drive with 17 video clips, labeled Exhibit A, and 8 photographs under Exhibit B.

“Efforts to extend legal rights to chimpanzees are thus understandable; some day they may even succeed.”

-Justice Barbara Jaffe, New York Supreme Court, New York County (2015)¹

“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.”

-Judge Eugene Fahey, New York Court of Appeals (2018)²

“This Court is extremely sympathetic to Happy's plight and the NhRP's mission on her behalf. It recognizes that Happy is an extraordinary animal with complex cognitive abilities, an intelligent being with advanced analytic abilities akin to human beings.”

- Justice Alison Y. Tuitt, New York Supreme Court, Bronx County (2020)³

“[W]e should recognize Happy's right to petition for her liberty not just because she is a wild animal who is not meant to be caged and displayed, but because the rights we confer on others define who we are as a society.”

-Judge Rowan D. Wilson, New York Court of Appeals (2022)⁴

“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. 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.”

- Judge Jenny Rivera, New York Court of Appeals (2022)⁵

¹ *Matter of Nonhuman Rights Project, Inc. v. Stanley*, 49 Misc.3d 746, 772-73 (Sup. Ct. 2015).

² *Nonhuman Rights Project, Inc., on Behalf of Tommy v. Lavery*, 31 N.Y.3d 1054, 1058 (2018) (Fahey, J., concurring).

³ *The Nonhuman Rights Project v. Breheny*, 2020 WL 1670735, at *10 (N.Y. Sup. Ct. 2020)

⁴ *Nonhuman Rights Project, Inc. v. Breheny*, 38 N.Y.3d 555, 626 (2022) (Wilson, J., dissenting).

⁵ *Nonhuman Rights Project, Inc. v. Breheny*, 38 N.Y.3d 555, 628-29 (2022) (Rivera, J., dissenting).

COMPLAINT FOR WRIT OF HABEAS CORPUS

Pursuant to Michigan common law, Chapter 43 of the Michigan Compiled Laws, and Subchapter 3.300 of the Michigan Court Rules, Petitioner, the Nonhuman Rights Project, Inc. (“NhRP”), hereby submits this Complaint for Writ of Habeas Corpus (“Complaint”) on behalf of seven chimpanzees (“DeYoung Prisoners”) who are illegally imprisoned and restrained of their liberty at the DeYoung Family Zoo (“DFZ”) in Wallace, Michigan by Respondents DeYoung Family Zoo, LLC and Harold L. DeYoung (collectively, “Respondents”), and in support thereof, states as follows:

PRELIMINARY STATEMENT

1. This pure common law case presents a question of first impression in Michigan and an opportunity for the Court to affirm our own humanity: “Can a nonhuman animal be entitled to release from confinement through the writ of habeas corpus?” *Nonhuman Rights Project, Inc. on Behalf of Tommy v. Lavery*, 31 N.Y.3d 1054, 1056 (2018) (Fahey, J., concurring).

2. The Complaint seeks to remedy a severe and unjust deprivation of bodily liberty. Chimpanzees are extraordinarily cognitively complex autonomous beings whose interest in exercising their autonomy is as fundamental to them as it is to us. Yet the DeYoung Prisoners, seven chimpanzees illegally imprisoned at a roadside zoo, cannot meaningfully exercise their autonomy at DFZ and as a consequence suffer physically and psychologically.

3. The Complaint establishes that these prisoners are illegally imprisoned under Michigan common law and are thus entitled to immediate release. As supported by the robust scientific evidence, NhRP respectfully requests that they be set free to a chimpanzee sanctuary accredited by the Global Federation of Animal Sanctuaries (“GFAS”), which would allow them to exercise their autonomy and extraordinary cognitive complexity to the greatest extent possible.

4. Six of the world's most renowned experts on chimpanzee cognition and behavior have submitted affidavits and declarations ("Expert Affidavits and Declarations")⁶ in support of the DeYoung Prisoners' freedom. The expert submissions demonstrate not only that chimpanzees possess the autonomy and self-determination that allow them to choose how they will live their own emotionally, socially, and intellectually rich lives, but also that DFZ is an unacceptable place for such cognitively complex beings.

5. Pursuant to MCL 600.4316 and MCR 3.303 (D), this Court must issue an order to show cause and allow the case to proceed to a hearing on the merits.⁷ Not doing so would be a "refusal to confront a manifest injustice." *Tommy*, 31 N.Y.3d at 1059 (Fahey, J., concurring).

6. The seven affidavits and declarations attached to this Complaint are incorporated herein by this reference.

SUMMARY OF THE ARGUMENT

7. The common law right to bodily liberty protected by habeas corpus is "the basic right of freedom from unlawful detention." *Goetz v. Black*, 256 Mich. 564, 567 (1932). "The earliest colonists brought [habeas corpus] to this country as a part of the common law, and it became, and ever since remained, the law of the land." *Id.*

8. This Court's jurisdiction over the common law writ includes a duty to extend the protections of habeas corpus in accordance with current science, changing societal norms and

⁶ MCL 600.2184 provides that "if a law of this state requires or permits use of a sworn declaration, an unsworn declaration meeting the requirements of this chapter has the same effect as a sworn declaration," with exceptions that do not apply here.

⁷ The standard for obtaining a habeas corpus "writ" and "order to show cause" are the same. *See* MCL 600.4316 ("Any court or judge empowered to grant the writ of habeas corpus shall, upon proper application, *grant the preliminary writ (or an order to show cause)* without delay, unless the party applying therefor is not entitled to the writ.") (emphasis added). As NhRP does not seek to have the DeYoung Prisoners brought into court, NhRP seeks the issuance of an order to show cause. *See* MCL 600.4325.

public policy, as well as the fundamental common law principles of justice, liberty, and equality. *See Beech Grove Inv. Co. v. C.R. Comm'n*, 380 Mich. 405, 430 (1968) (“‘The common law does not consist of definite rules which are absolute, fixed, and immutable like the statute law, but it is a flexible body of principles which are designed to meet, and are susceptible of adaptation to, among other things, new institutions, public policies, conditions, usages and practices, and changes in mores, trade, commerce, inventions, and increasing knowledge, as the progress of society may require. So, changing conditions may give rise to new rights under the law, and, also, where the reason on which existing rules of the common law are founded ceases, the rules may cease to have application.’”) (citation omitted).

9. The Complaint respectfully requests that this Court: a) issue an order to show cause requiring Respondents to file an answer justifying their imprisonment of the DeYoung Prisoners; b) recognize the DeYoung Prisoners’ common law right to bodily liberty protected by habeas corpus; c) find the DeYoung Prisoners’ imprisonment illegal; and d) order the DeYoung Prisoners released and relocated to a GFAS-accredited chimpanzee sanctuary.⁸

10. The Complaint establishes that the DeYoung Prisoners’ imprisonment violates their common law right to bodily liberty protected by habeas corpus, specifically by depriving them of the ability to meaningfully exercise their autonomy and extraordinary cognitive complexity, including the freedom to be chimpanzees. The violation of the chimpanzees’ common law right to bodily liberty renders their imprisonment illegal.

⁸ “If an order to show cause is issued, it must be answered as provided in subrule (N), and the hearing must be held at the time and place specified in the order.” MCR 3.303 (K)(2). Subrule (N) provides that an answer must state plainly and unequivocally “whether the defendant then has, or at any time has had, the prisoner under his or her control and, if so, the reason.”

11. As the Complaint adheres to the pleading requirements set forth in MCR 3.303 (C), this Court must “grant . . . an order to show cause” without delay. MCL 600.4316. *See also* MCR 3.303 (D) (“On the filing of the complaint, the court may issue . . . an order to show cause why the writ should not be issued, unless it appears that the prisoner is not entitled to relief.”). In issuing an order to show cause, this Court need not make an initial determination that the chimpanzees have the common law right to bodily liberty protected by habeas corpus, for as in other habeas corpus cases, this Court need only assume without deciding that they possess this right.

12. Whether the DeYoung Prisoners have “the right to liberty protected by habeas corpus” is a question of “precise moral and legal status.” *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 ethics and policy that demands our attention.” *Id.* at 1058. The Court should not approach this case by asking “whether a chimpanzee fits the definition of a person.” *Id.* at 1057.⁹

13. The Expert Affidavits and Declarations demonstrate that chimpanzees are autonomous and self-determining beings who possess complex cognitive abilities on par with humans.¹⁰ Chimpanzees possess a sense of self, make choices, plan for the future, exhibit empathy and compassion, and grieve the loss of loved ones.¹¹ They are aware of past pains and pleasures, and when an anticipated future event is painful—including a never-ending imprisonment—they

⁹ Upon recognizing that the DeYoung Prisoners have the common law right to bodily liberty, they are necessarily “persons” for purposes of habeas corpus (*infra* § V.A).

¹⁰ As chimpanzees and humans share close to 99% of their DNA, their brains are very similar. (Matsuzawa Decl. ¶ 13).

¹¹ Remarkably, chimpanzees seem to have a sense of spirituality. In a video on Dr. Goodall’s YouTube page (see here: <https://bit.ly/47XC8DE>), she describes a rhythmic dance before a waterfall as a display of spirituality, triggered by the same feelings of “awe” and “wonder” that humans feel.

suffer just as humans do. As complex autonomous beings, the scientific evidence is indisputable that chimpanzees suffer physically and psychologically when placed in an environment that does not allow them to exercise their autonomy and engage in species-specific behavior.

14. Based on the indisputable scientific evidence, together with decades of firmly settled common law principles, this Court must recognize the DeYoung Prisoners' common law right to bodily liberty protected by habeas corpus (*infra* § V.C-D). To deny these chimpanzees this right because they are not human would be arbitrary and anachronistic, contrary to the fundamental common law principles of justice, liberty, and equality.

15. Upon recognition of the DeYoung Prisoners' common law right to bodily liberty protected by habeas corpus, this Court must conclude that their imprisonment at DFZ is illegal because it violates their right by depriving them of the ability to meaningfully exercise their autonomy and extraordinary cognitive complexity. Accordingly, the DeYoung Prisoners are entitled to relief.

16. This Court must order the DeYoung Prisoners released and relocated to an environment that will allow them to exercise their autonomy and extraordinary cognitive complexity to the greatest extent possible, where the complex social, emotional, and physical needs of chimpanzees can be met—namely, a GFAS-accredited chimpanzee sanctuary. This relief is akin to the relief accorded to minors and others who require care after release on habeas corpus.

17. In issuing an order to show cause, this Court will join a growing body of judges who have taken seriously the notion that the protections of habeas corpus can extend to nonhuman animals. Specifically:

18. In 2013, NhRP filed the first ever habeas corpus petition on behalf of a nonhuman animal in the U.S., specifically a chimpanzee named Tommy (who died in 2022 while imprisoned

at DFZ – footnote 15, *infra*). The trial court justice was so impressed that he stated to the New York Times: “Ultimately, I felt that they had the right to make a record so that they could appeal. I thought, Here’s this group of lawyers, living and dying this, they deserve due process, and they deserve to be told just how impressed at least I was by the effort they’re making on behalf of animals.” Charles Siebert, *Should a Chimp Be Able to Sue Its Owner?* N.Y. TIMES (April 23, 2014), <https://bit.ly/3QFIctd>.

19. In 2015, a New York trial court became the first court in the U.S. to apply habeas corpus law to a nonhuman animal when it issued an order to show cause for two chimpanzees, Hercules and Leo. *See generally Matter of Nonhuman Rights Project, Inc. v. Stanley*, 49 Misc.3d 746, 748 (N.Y. Sup. Ct. 2015). In a lengthy opinion lauding NhRP’s arguments, the court declared: “Efforts to extend legal rights to chimpanzees . . . may [someday] succeed.” *Id.* at 772-73.

20. In 2018, Judge Eugene Fahey of the New York Court of Appeals—New York’s highest court—wrote in a concurring opinion that the issue of “whether a nonhuman animal has a fundamental right to liberty protected by the writ of habeas corpus is profound and far-reaching,” and “there is no doubt that [a chimpanzee] is not merely a thing.” *Tommy*, 31 N.Y.3d at 1059 (Fahey, J., concurring).

21. In 2018, a New York trial court issued an order to show cause for an elephant imprisoned at the Bronx Zoo—the world’s first habeas corpus order to show cause for an elephant.¹² Following a transfer of venue, the court concluded: “This Court agrees that Happy [the elephant] 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 Nonhuman*

¹² See Mallory Diefenbach, *Orleans County issues first habeas corpus on behalf of elephant*, The Daily News (Nov. 21, 2018), <https://bit.ly/3AwkCWV>.

Rights Project v. Breheny, 2020 WL 1670735 at *1, *10 (N.Y. Sup. Ct. 2020) (hereafter *Breheny (Trial Court)*).

22. In 2022, the highest court of an English-speaking jurisdiction heard NhRP's appeal for Happy. *See Nonhuman Rights Project, Inc. v. Breheny*, 38 N.Y.3d 555 (2022). The now Chief Judge, Rowan Wilson, and Judge Jenny Rivera, of the New York Court of Appeals, found that the common law writ of habeas corpus was available for Happy to challenge her unjust imprisonment at the Bronx Zoo. *Id.* at 577-626 (Wilson, J., dissenting); *id.* at 626-42 (Rivera, J., dissenting).

I. Parties

A. The DeYoung Prisoners

23. Upon information and belief, there are seven chimpanzees imprisoned at DFZ.¹³ They are herein identified as Prisoner A (aka Louie), Prisoner B, Prisoner C, Prisoner D, Prisoner E, Prisoner F, and Prisoner G.¹⁴ Upon information and belief, the facts pertaining to each prisoner are as follows.¹⁵

¹³ A USDA inspection report of DFZ, dated March 29, 2023, indicates there are seven chimpanzees at the zoo. USDA-APHIS Records I at 42, <https://bit.ly/3sy6cH2>. The USDA attempted to conduct an inspection of DFZ on August 30, 2023, but an inspection could not be conducted since a representative for the zoo was not available. <https://bit.ly/3R2ROyn>.

¹⁴ In response to FOIA requests, NhRP has received no records indicating that these chimpanzees are not currently at the zoo.

¹⁵ Less than a week before the filing of the Complaint, NhRP finally received USDA records (after years of requesting them) that an adult male chimpanzee named Tommy had died at DFZ in early 2022. USDA-APHIS Records II at 80, <https://bit.ly/4a3bUkM>. Tommy was the subject of NhRP's first historic habeas lawsuit in 2013, when he was imprisoned in a cement cage in Gloversville, New York. *See generally* Charles Siebert, *Should a Chimp Be Able to Sue Its Owner?* N.Y. TIMES (April 23, 2014), <https://bit.ly/3QFIctd>. In his cage, Tommy existed alone in a prison filled with "rancid milk-musk odor," "some plastic toys and bits of soiled bedding," and "visible light [that] emanated from a small portable TV on a stand outside his bars." *Id.* NhRP filed two habeas lawsuits on behalf of Tommy in New York, resulting in a historic and remarkable opinion authored by Judge Fahey of the New York Court of Appeals. *See generally Tommy*, 31 N.Y.3d 1054 (Fahey, J., concurring). In 2015, Tommy was transferred to DFZ where he remained a prisoner until his death. NhRP is profoundly saddened that it was not able to file this lawsuit in time to seek Tommy's freedom.

1. Prisoner A (aka Louie)

24. Prisoner A is an approximately 13-year-old male chimpanzee named Louie who has been imprisoned at DFZ since 2010 when he was 6 weeks old.¹⁶ For at least the first two years of his life, Louie was exploited for profit and used as a prop in photo opportunities. Videos and photos show Louie often on a fixed leash being made to interact with children and other zoo patrons in various ways.¹⁷

25. From 2010 until at least January 2018, Louie was housed without the companionship of other chimpanzees. In 2017, a long-time zoo patron filed a complaint with the USDA stating that Louie was being held “in a solitary cage on a cement pad.”¹⁸

2. Prisoners B and C

26. Prisoner B is an adult female chimpanzee who has been imprisoned at DFZ since at least 2017.¹⁹ She was previously held captive at the Missouri Primate Foundation near Festus, MO, which is a now-defunct chimpanzee breeding facility used as a primary source of chimpanzees sold within the exotic animal trade and entertainment industry.²⁰ In August 2017, while imprisoned at DFZ, Prisoner B gave birth to a female chimpanzee.²¹

¹⁶ USDA-APHIS Records I at 55, <https://bit.ly/3sy6cH2>.

¹⁷ See <https://bit.ly/47BG2SU>; <https://bit.ly/47ZmSpH>; <https://bit.ly/46FurB4>; <https://bit.ly/3NcynCh>; <https://bit.ly/3QULVmQ>; and <https://bit.ly/3RmNv2k>.

¹⁸ USDA-APHIS Records II at 159, <https://bit.ly/4a3bUkM>.

¹⁹ USDA-APHIS Records I at 18 and 281, <https://bit.ly/3sy6cH2>.

²⁰ The Missouri Primate Foundation had been repeatedly cited for violations of the Animal Welfare Act. See PETA, *Factsheet on Missouri Primate Foundation*, <https://bit.ly/3Gp5qiL>.

²¹ USDA-APHIS Records I at 281.

27. Prisoner C is an approximately 6-year-old female chimpanzee born at DFZ in 2017. Prisoner C is the daughter of Prisoner B, but was removed from the latter's care as an infant by Respondents.²²

3. Prisoners D-G

28. Prisoner D is an adult female chimpanzee who has been imprisoned at DFZ since at least 2017.²³ She was previously held captive at the Missouri Primate Foundation.

29. Prisoner E is an adult male chimpanzee who has been imprisoned at DFZ since at least 2017.²⁴ He was previously held captive at the Missouri Primate Foundation.

30. Prisoner F is a male chimpanzee who has been imprisoned at DFZ since at least 2017.²⁵ He was previously held captive at the Missouri Primate Foundation.

31. Prisoner G is a male chimpanzee who has been imprisoned since at least 2017.²⁶ He was previously held captive at the Missouri Primate Foundation.²⁷

B. Petitioner Nonhuman Rights Project, Inc.

32. Petitioner NhRP is a 501(c)(3) non-profit corporation incorporated in the State of Massachusetts, with a primary address at 611 Pennsylvania Avenue SE #345, Washington, D.C. 20003. NhRP is the only civil rights organization in the United States dedicated solely to securing

²² *Id.*

²³ *Id.* at 18.

²⁴ *Id.*

²⁵ *Id.* at 282.

²⁶ *Id.*

²⁷ Unlike DeYoung Prisoners B and D-G, the six surviving chimpanzees at Missouri Primate Foundation were released to accredited sanctuaries upon its closure. PETA, *Victory! After Years of Dedicated Effort, PETA Secures a New Life for Exploited Chimpanzees* (July 29, 2021), <https://bit.ly/4a1neOl>.

legal rights for nonhuman animals. Since 1995, NhRP has worked to obtain legal rights for autonomous nonhuman animals such as chimpanzees and elephants.

C. Respondents DeYoung Family Zoo, LLC and Harold DeYoung

33. Respondents DeYoung Family Zoo, LLC and Harold DeYoung have a principle address at N5406 County Road 577, Wallace, MI 49893. Harold DeYoung is the founder and owner of DFZ, and he is the Resident Agent for the DeYoung Family Zoo, LLC, according to Michigan's Department of Licensing and Regulatory Affairs.

II. The Expert Scientific Facts

A. Introduction

34. Chimpanzees are autonomous and self-determining beings. They recall their past and anticipate their future, and when their future is imprisonment, they suffer the pain of being unable to fulfill their goals or move around as they wish, much in the same way as human beings.

35. As demonstrated in the accompanying Expert Affidavits and Declarations, chimpanzees possess numerous cognitively complex abilities. These include, but are not limited to, the possession of autonomy and self-determination, as well as numerous advanced cognitive abilities related to autonomy and self-determination including: self-awareness; self-monitoring; self-reflection; self-agency; episodic memory; referential and intentional communication; mental time-travel; numerosity; sequential learning; meditational learning; creativity; mental representation; mental state modeling; visual perspective-taking; object manipulation; anticipating the intentions of others; purposeful vocalizations; analogical reasoning; understanding the experiences of others; intentional action; planning; imagination; empathy; metacognition; working memory; decision-making; imitation; deferred imitation; emulation; innovation; material, social,

and symbolic culture; cross-modal perception; tool-use; tool-making; understanding causation; and an awareness of and response to death, including grieving behaviors.

36. Dr. Jane Goodall is a premier expert on chimpanzee behavior, intelligence and emotions, and is celebrated for her world-renowned research on wild chimpanzees in Gombe National Park and elsewhere. Writing to this Court about chimpanzees, Dr. Goodall remarked: “Theirs is a highly complex society. Their life in the wild provides them with a continually changing environment, both socially and physically, and they are confronted by many challenges, including finding food and maintaining or improving their position in their community.” (Goodall Decl. ¶ 15).

37. Yet, as the experts make clear, the “rich and complex life of chimpanzees in the wild is not possible in captivity.” (McGrew Decl. ¶ 40). “[E]fforts can be made to offer captive apes as much opportunity as possible to live good and happy lives,” and “[a]nything short of that entails misery, even in the best zoos.” *Id.* The “best conditions are found in sanctuaries, which are basically retirement homes.” *Id.*

38. In light of their autonomous nature, confining chimpanzees in non-species specific living conditions is devastating to their physical and psychological well-being. (Boesch Decl. ¶ 14). Chimpanzees in captive environments who are unable to exercise their autonomy can suffer severe physical and psychological harm, including stereotypical and abnormal behaviors, aberrant self-directed behaviors (such as self-manipulation, self-scratching, self-grasping, and self-injurious behavior), increased aggression, decreased exploration, low dominance rank, and reduced or abnormal sexual behaviors. (Jensvold Aff. ¶ 12).

39. As set forth below (*infra* § II.D), DFZ is a completely unacceptable place for chimpanzees. The DeYoung Prisoners should be set free to a GFAS-accredited chimpanzee

sanctuary (as recommended by the expert testimony) so that they can exercise their autonomy and have their complex physical and psychological needs met. (Jensvold Aff. ¶ 98) (Matsuzawa Decl. ¶ 34) (McGrew Decl. ¶ 40).

B. Chimpanzees are autonomous, extraordinarily cognitively complex beings

40. There is ample proof from studies of chimpanzee behavior, both in the wild and in captivity, that chimpanzees are autonomous beings with a highly complex cognitive nature. (Goodall Decl. ¶ 16). There is ample evidence for cognitive similarities between humans and chimpanzees in the domains of mental representation, intentionality, imagination, and mental state modeling – all fundamental components of autonomy. (Jensvold Aff. ¶ 27).

41. 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 analyzing their behavior. (Fugate Aff. ¶ 11) (McGrew Decl. ¶ 14) (Jensvold Aff. ¶ 11) (Boesch Decl. ¶ 11) (Matsuzawa Decl. ¶ 12) (Goodall Decl. ¶ 16).

1. Genetic Similarities to Humans

42. The chimpanzee is humankind's closest living relative, and *vice versa*. (McGrew Decl. ¶ 12). Chimpanzees resemble humans in many genetic, physiological, anatomical and behavioral ways. (McGrew Decl. ¶ 13). For instance, their blood is interchangeable with human blood, such that a transfusion from a human being could save a chimpanzee's life or vice versa. *Id.* The volume of the chimpanzee brain is comparable in size to that of the most recent (but extinct) member of the human evolutionary lineage, *Homo floresiensis*, which lived as recently as 18,000

years ago. *Id.* Chimpanzee performance on intelligence tests is equivalent to that of 3-4 year-old human children, especially in physical intelligence, such as object manipulation. *Id.*

43. As chimpanzees and humans share close to 99% of their DNA, their brains are very similar. (Matsuzawa Decl. ¶ 13). Several shared characteristics in the brain are relevant to such capacities as self-awareness and autonomy as well as general intelligence. *Id.* Both chimpanzees and humans: (1) have larger brains than expected for their body size, which means chimpanzees and humans have evolved to possess above-average mental abilities compared to other species of the same body size; (2) share similar circuits in the brain that are involved in language and communication; and (3) share several highly specific cell types that are thought to be involved in higher-order thinking. *Id.* Chimpanzee and human brains also share several important functional characteristics related to the sense of self. *Id.* Finally, both human and chimpanzee brains are similar in terms of how the brain develops and matures, indicating that chimpanzees and humans go through similar cognitive developmental stages. *Id.*

44. Developmental delay (a long protracted period of brain development over many years) is a key feature of human brain evolution and is thought to play a role in the emergence of complex cognitive abilities, such as self-awareness, creativity, foreplanning, working memory, decision making, and social interaction. (Matsuzawa Decl. ¶ 14). Delayed development of the brain, and specifically the prefrontal cortex, provides a longer period in which this part of the brain may be shaped by experience and learning. *Id.*

45. Likewise, chimpanzee brains exhibit a very similar level of developmental delay in the prefrontal cortex, leading to the neuroanatomical basis for such high-level capacities as self-awareness, forethought, decision-making, and working memory in chimpanzees. (Matsuzawa Decl. ¶ 14). Consistent with these similar functions in humans and chimpanzees, chimpanzee

infants share some common mental features and patterns with human infants. *Id.* These features include how mothers and infants interact and use social smiling and mutual gazing as ways of strengthening their bond, as well as how and when they first start to manipulate objects, which is related to their shared capacity for tool-making and use. *Id.*

46. One of the hallmarks of sophisticated communication and even language-like capacities is brain asymmetry. (Matsuzawa Decl. ¶ 15). In humans, the left and right parts of the brain have different shapes which are related to language capacities as well as with handedness. *Id.* Studies of the anatomy of the brain reveal that chimpanzees possess very similar patterns of asymmetry. *Id.* Furthermore, chimpanzees exhibit population-level right-handedness in captivity as well as in patterns of tool use in the wild. *Id.*

47. Human and chimpanzee brains both possess a specialized type of cell – known as a spindle cell – in the same area of the brain. (Matsuzawa Decl. ¶ 16). This area, known as the anterior cingulate cortex is involved in emotional learning, the processing of complex social information, decision-making, awareness, and, in humans, speech initiation. *Id.* Therefore, the presence of spindle cells in both chimpanzees (and other great apes) and humans strongly suggests they share a number of these higher-order brain functions. *Id.*

2. Self-awareness

48. Central to autonomy are self-awareness and self-reflection. (Matsuzawa Decl. ¶ 20). The concept of self is an integral part of the ability to have goals and desires, intentionally act towards those goals and desires, and understand whether those goals and desires are satisfied or not. *Id.* There is robust evidence that chimpanzees possess a sense of self. *Id.* They have the ability to recognize themselves in mirrors and show several capacities that stem from being self-aware, such as metacognition, that is, the ability to think about and reflect upon one's thoughts and

memories. *Id.* Like human children, chimpanzees know when they have enough visual information to complete a task and they also know that they could be wrong about the information they have and, again like human children, will check if they are uncertain. *Id.*

49. Chimpanzees and humans share the fundamental cognitive processes underlying the sense of being an independent agent. (Matsuzawa Decl. ¶ 21); *accord* (Boesch Decl. ¶ 15). The ability to distinguish actions and effects caused by oneself from events occurring in the external environment is called “self-agency” and is a fundamental component of autonomy and purposeful behavior. (Matsuzawa Decl. ¶ 21). Chimpanzees can distinguish between the movement of an object, e.g., a computer cursor controlled by themselves, and motion caused by someone else. *Id.*

50. Self-aware, autonomous individuals understand that they exist through time, that is, they have an autobiographical self. (Boesch Decl. ¶ 15). Chimpanzees clearly possess an autobiographical self, as they are able to prepare for the future and can remember highly specific elements of past events over long periods of time. *Id.* As in humans, the capacity for self-recognition in adult chimpanzees is highly stable across time, with some decline in old age. (Jensvold Aff. ¶ 46).

3. Understanding others’ minds

51. Not only do chimpanzees reflect upon their thoughts and states of knowledge but they also understand the minds and experiences of others. (Matsuzawa Decl. ¶ 22). For instance, chimpanzees can not only imitate the actions of others but anticipate the intentions of others when watching a human or another chimpanzee try to complete a task. *Id.* Chimpanzees know what others can and cannot see and when another’s behavior is accidental or intentional. *Id.* Chimpanzees use their knowledge of others’ perceptions tactically to deceive other chimpanzees

and obtain hidden food. This kind of complexity in understanding others' minds is key evidence that chimpanzees are aware of their own minds and those of others. *Id.*

4. Planning for the future (mental time travel)

52. Chimpanzees possess the sophisticated cognitive capacity for “mental time travel,” (Jensvold Aff. ¶ 17), which is “thinking about something in the future.” (Matsuzawa Decl. ¶ 24). A wealth of experimental evidence shows that chimpanzees plan for the future. (Boesch Decl. ¶ 16).

53. Chimpanzees can even communicate about past and future events. In fact, language-trained chimpanzees have been found to make more statements about what they intend to do in the future compared with human children. (Jensvold Aff. ¶ 17).

54. Chimpanzees are not only able to mentally prepare for an upcoming event and alter the future but they are able to use intentional deception in the process. (Boesch Decl. ¶ 16). The planning for future use of tools and objects has been demonstrated experimentally, as well as documented in a long-term observational study of spontaneous tool use and innovation in a captive chimpanzee. *Id.* In one study, a male chimpanzee in a zoo collected and stowed away sharp stones in his display area for use as projectiles thrown at visitors. *Id.* The chimpanzee also engaged in deceptive behavior by stashing the stones in a “calm manner” so as not to be noticed. *Id.* Intentional deception is a hallmark of the ability to take the perspective of and model mental states in others. (Boesch Decl. ¶ 16). *Accord* (Jensvold Aff. ¶ 41) (“chimpanzees are not only able to prepare for an upcoming event, but are also able to mentally construct a new situation which will alter the future”).

55. Just as they can mentally run through steps in their mind to plan for future actions, chimpanzees can remember and mentally re-experience events in the past (also known as episodic

memory). (Boesch Decl. ¶ 17). Chimpanzees can use information about tools they recall from an event that occurred only four times three years earlier. (Boesch Decl. ¶ 17). They can also make complex decisions about which food items to choose based on perishability by keeping in mind two food items presented separately one hour apart. *Id.*

56. Chimpanzees living in a forest retain knowledge of good sources of food using spatial memory. (Boesch Decl. ¶ 20). Dr. Boesch's observations strongly suggest that, when foraging, the chimpanzees are using sophisticated Euclidean mental spatial maps based on long-term episodic memories. *Id.*²⁸ These findings not only provide evidence of complex mental representational abilities in chimpanzees but also the use of long-term knowledge from specific memories within the context of an autobiographical sense of their own experiences over time. *Id.*

57. Part of being an autonomous individual is self-control. Chimpanzees, like humans, can delay gratification for a future reward; they possess a high level of self-control under many circumstances. (Jensvold Aff. ¶ 42). Self-control depends upon the episodic system—basically, the perceptual simulations made possible by episodic memory function as a motivational “brake” on current drives in favor of delayed rewards. *Id.* Delayed gratification is only available to humans and nonhumans with a sufficiently sophisticated sense of self and autobiographical memory. *Id.*

58. Chimpanzees can delay a strong current drive for a better future reward, generalize a novel tool for future use, select objects for a much-delayed future task, and do all of this while keeping in mind several different elements of a situation. (Jensvold Aff. ¶ 43). In a series of experiments, it was demonstrated that chimpanzees can disregard an immediate small piece of food in favor of a tool that would allow them to get a larger piece of food in the future. *Id.*

²⁸ In an observational study of several female chimpanzees in the Taï Forest, Dr. Boesch's team discovered that, during their travels, they visited specific abundantly fruiting trees in a very deliberate and goal-directed manner, rather than through haphazard discovery. (Boesch Decl. ¶ 18).

Chimpanzees can even select a tool which they had never seen before, but which function they could guess, and use it in the future on a reward apparatus. This ability to perceive the function of a novel tool in the future would be impossible without mentally representing the details of the future event. *Id.*

59. Chimpanzees possess an episodic system similar to humans. (Jensvold Aff. ¶ 45). Because chimpanzees have a self-concept and are aware of their past and see a future ahead of them, they can re-experience past pains and pleasures as well as anticipate such emotions. *Id.* This in turn implies that they likely can, just as humans, be in pain over an anticipated future event that has yet to occur. *Id.* Chimpanzees also suffer the pain of not being able to fulfill one's goals or move around as one wants; like humans, they might experience the pain of anticipating a never-ending situation. *Id.*

5. Communication

60. Language is a volitional process in humans that involves creating intentional sounds for communication and is, therefore, a reflection of autonomous thinking and behavior. (Matsuzawa Decl. ¶ 17). Findings regarding functional aspects of the chimpanzee brain demonstrate volitional control over their vocalizations as well. *Id.* Chimpanzees produce certain sounds to capture the attention of an inattentive audience or to inform others about the presence of various items, such as food or a play object or tool. *Id.*

61. Chimpanzee communication skills are rich. (Fugate Aff. ¶ 22). *See also* (Matsuzawa Decl. ¶ 17). During social interactions, chimpanzees exchange emotional information mainly through vocalizations, facial expressions, gestures, and bodily postures, and the ability to exchange such information reveals the highly cognitively complex and autonomous nature of chimpanzees. (Fugate Aff. ¶ 12).

62. Chimpanzees have approximately 20-30 different facial expressions and their vocalizations have been divided into several categories based on morphology and apparent function. (Fugate Aff. ¶ 14). Chimpanzee vocalizations and facial expressions can be controlled and regulated and changed based on context and audience. (Fugate Aff. ¶ 17).

63. Not only do chimpanzees create purposeful vocalizations (Matsuzawa Decl. ¶ 17), they share components of at least three basic cognitive abilities with humans, including: 1) analogical reasoning (using relational devices, like symbols, to organize information at a higher level); 2) shared mental states (understanding that others have minds and goals and intentions and false beliefs); and 3) causal inference (an ability to intuit hypothetical or causal forces). (Fugate Aff. ¶ 21). The complex nature of chimpanzee auditory and visual communicative expressions likely evolved to increase the rates of affiliative behavior between individuals that promote social bonding similar to that in humans. (Fugate Aff. ¶ 16).

64. Several independent lines of evidence suggest that many facial expressions are shared across humans and chimpanzees. (Fugate Aff. ¶ 14). For instance, the facial musculature which forms the structure of facial expressions is essentially the same in humans and chimpanzees. *Id.* With few exceptions, the facial expressions of humans and chimpanzees can be compared directly. *Id.* Many of the expressions in chimpanzees and humans are displayed in similar circumstances, suggesting a common function or meaning. (Fugate Aff. ¶ 15). Since chimpanzees live in complex social groups, they must possess well-developed emotional processing skills in order to be able to interpret the many different meanings associated with facial expressions used in different emotional contexts. *Id.*²⁹

²⁹ These facial expressions reflect the motivations and tendencies towards certain actions in the individual given a set of social and environmental conditions. (Fugate Aff. ¶ 15). Some of the basic categories include the “silent bared teeth display,” which is typically used as a signal of antagonistic intent by the sender and shows remarkable homology with a human smile. *Id.* Other categories include

65. Recent studies of wild chimpanzees reveal their rich repertoire of voices and vocal communication. (Matsuzawa Decl. ¶ 18). A 2022 study showed that bark vocalizations produced before hunt initiation are reliable signals of behavioral motivation. *Id.* Barks are associated with greater hunter recruitment and more effective hunting, with shorter latencies to hunting initiation and prey capture. *Id.* Wild chimpanzees also engage in gestural communication. For example, they use ‘directed scratches’ to request grooming of specific body areas, which involves one chimpanzee making a relatively loud and exaggerated scratching movement on a part of his body. The use of such gestures specifies an area of the body to be groomed and to depict a desired future action. (Matsuzawa Decl. ¶19).

6. American Sign Language (ASL)

66. Chimpanzees who have acquired comprehension and production of ASL provide a unique window into the minds of chimpanzees because ASL provides a way for them to express themselves in a manner that humans understand well. (Jensvold Aff. ¶ 13). Chimpanzees’ use and understanding of sign language, along with their natural communicative gestures and vocalizations, parallels the development of language in human children, and point to deep similarities in the cognitive processes that underlie communication in chimpanzees and humans. (Jensvold Aff. ¶ 13).

67. Purposeful communication is based on conversational interaction in which each of the participants exchange turns communicating in a give-and-take manner and respond

the chimpanzee “play” display, used almost exclusively during play and to initiate play and which may be accompanied by laughter; “pouts and whimpers,” which are used to get something that is desired but not obtainable and may be used by infants during weaning and to seek reassurance and during begging; the “pant hoot” display, which is used for extreme excitement and in bluff displays and in reuniting. *Id.* Finally, the large class of “screams” includes many acoustically distinct and perhaps functionally distinct calls, all united in their general function of fighting, separated by victim and attacker. *Id.*

appropriately to the communicative actions of each other. (Jensvold Aff. ¶ 18). Signing chimpanzees demonstrate contingent communication with humans at the same level as young human children. When they make a request and it is satisfied, they cease signing their request. When the request is misunderstood, refused, or not acknowledged, chimpanzees repeat and revise their signing until they get a satisfactory response. As in humans, this pattern of contingency in conversation is a key demonstration of volitional and purposeful communication and thought. *Id.*

68. Chimpanzees have demonstrated the capacity to understand that conversation involves turn-taking and mutual attention. (Jensvold Aff. ¶ 20). If chimpanzees wish to communicate with a human whose back is turned to them they will make attention-getting sounds, i.e., using only signs with a noisy sound component, such as smacking the hand. *Id.* Their reactions to and interactions with a conversational partner resembled patterns of conversation found in similar studies of human children. (Jensvold Aff. ¶ 19).

69. Chimpanzees acquire vocabulary in patterns that resemble human children, with the difference being that chimpanzees begin to sign earlier than children. (Jensvold Aff. ¶ 14). The development of phrases in chimpanzees also parallels that in human children, as well as early vocabulary content, patterns of eye gaze, and turn-taking. *Id.*

70. Just as humans do, chimpanzees modulate their signs to change the meaning of signs (for example, changing the place where a sign occurs). (Jensvold Aff. ¶ 14). Declaratives are important because they show the communicator is using language as a way to share experiences with another and not just to request items like food or a toy. Both human children and signing and other symbol-using chimpanzees use declaratives to name objects, interact, and negotiate. *Id.* Chimpanzees also use symbols to comment on other individuals and about past and future events. (Jensvold Aff. ¶ 15).

71. Signing chimpanzees also sign amongst themselves, which shows that chimpanzee sign language is not a simple response to prompting by humans but is similar to the way human children develop language. (Jensvold Aff. ¶ 21). In addition, signing chimpanzees spontaneously use ASL to communicate with each other, without being first taught by humans. For instance, Loulis (a male chimpanzee) was the first non-human to learn a human language from other non-humans. Loulis was the adopted son of another signing chimpanzee, Washoe, and acquired his signs from Washoe and other signing chimpanzees. Loulis observed other chimpanzees using the signs of ASL around him, like CHASE and TICKLE during play interactions. Moreover, Washoe would mold his hand into signs like MORE for more food. Loulis learned to use many signs in different categories (names, pronouns, verbs, etc.) as a direct consequence of social learning and being taught by his mother's intentional and goal-directed shaping of his abilities. Washoe's behavior toward her adopted son demonstrates perspective-taking and empathy. The chimpanzees sign to each other in social interactions to initiate, regulate and maintain the interaction. *Id.*

72. Humans and chimpanzees exhibit a telltale sign of volitional use of language, that is, private signing or signing to themselves. (Jensvold Aff. ¶ 22). For speakers this is known as private speech. *Id.* Just as in human children, a high percentage of the private utterances referred to objects present in the environment. These utterances by chimpanzees also accompanied behaviors or signs about a behavior before they performed it. *Id.* There are numerous similarities between private speech in human children and chimpanzees. *Id.*

73. Studies of cross-fostered chimpanzees, that is, those who have been raised by humans and acquired a symbol-based language, reveal similar patterns of cognitive and communicative development in human infants and chimpanzees. (Jensvold Aff. ¶ 14). There are numerous parallels in the way chimpanzee and human communication skills develop over time,

suggesting a similar unfolding cognitive process across the two species and an underlying neurobiological continuity. Chimpanzees show some of the same early developmental tendencies and changes in their communication skills as human children. *Id.*

74. Both signing and wild chimpanzees understand the give-and-take of a conversation and adjust their communication to the attentional state of the individual with whom they want to communicate. (Jensvold Aff. ¶ 20). Both wild and captive chimpanzees string together multiple gestures to create gesture sequences. *Id.* Chimpanzees use visual gestures toward an attentive partner and tactile and auditory gestures more often toward inattentive partners. If the partner does not respond, they repeat the gesture and use one that is more effective at communicating. *Id.*

7. Numerosity

75. Numerosity judgment is the ability to understand numbers as a sequence of quantities, and it requires not only sophisticated working memory (to keep numbers in mind) but also a conceptual understanding of a sequence, which is closely related to mental time travel (thinking about something in the future) and planning out the right sequence of steps towards a goal, which are two critical components of autonomy. (Matsuzawa Decl. ¶ 24).

76. Not only do chimpanzees excel at understanding sequences of numbers but they understand that Arabic symbols (“2”, “5”, etc.) represent discrete quantities, outperforming humans in some of these tasks. (Matsuzawa Decl. ¶ 24). Sequential learning is critical for human speech and language processing, the learning of action sequences, or any task that requires putting items into an ordered sequence. *Id.* Chimpanzees can count or sum up arrays of real objects or Arabic numerals and display the concepts of ordinality and transitivity (the logic that if $A > B$ and $B > C$, then $A > C$) when engaged in numerical tasks, demonstrating a real understanding of the ordinal nature of numbers. *Id.* Chimpanzees also understand proportions (e.g., $1/2$, $3/4$, etc.).

Chimpanzees can learn to name (using a symbol-based computer keyboard) the number, color, and type of object shown on a computer screen. *Id.* They can use a computer touch screen to count from 0 to 9 in sequence. *Id.* Most recently, a study showed that chimpanzees can master the sequential order of Arabic numerals from 1 to 19. *Id.*

8. Working Memory

77. Not only do chimpanzees understand numbers and sequences, their working memory (short-term memory) of numbers is superior to that of adult humans. (Matsuzawa Decl. ¶ 25). Working memory is the ability to temporarily store, manipulate, and recall items (numbers, objects, names, etc.), and underlies several mental skills related to mental representation. *Id.* The cognitive processes needed to achieve this include attention and executive control (reasoning, planning, and execution). *Id.* Chimpanzees have an extraordinary working memory capability for numerical recollection, better than that of adult humans. *Id.*³⁰

9. Tool making and tool use

78. One of the most important indicators of intelligence is tool making and use. (McGrew Decl. ¶ 15). Tool making implies complex problem-solving skills and an understanding of means-ends relations and causation. *Id.*³¹ Tool-making requires the same mental abilities that underlie human culture: Observing others and acquiring skills about how to do things. (McGrew Decl. ¶ 20).

³⁰ In one study, chimpanzees were shown the numerals 1-9 spread randomly across a computer screen. The numbers appeared for a very limited duration (210, 430, and 650 milliseconds and then were replaced by white squares, which had to be touched in the correct order (1-9). In another version of the task, they had to remember the location of each concealed number and touch them in the correct order. The performance of chimpanzees on these memory tasks was not only accurate but much better than that of human adults, who could not even complete most versions of the task. (Matsuzawa Decl. ¶ 25).

³¹ That is, it requires making choices, often in a specific sequence, toward a predefined goal, which is a key aspect of intentional action. (McGrew Decl. ¶ 15).

79. Chimpanzees demonstrate intelligent tool making and usage in both nature and in captivity. (McGrew Decl. ¶ 15) (Matsuzawa Decl. ¶ 26). In nature, they make tools with vegetation and stone and use them in daily life to hunt, forage, fight, play, communicate, and in courtship, hygiene and socializing. (McGrew Decl. ¶ 15).

80. Chimpanzees utilize their intelligence to learn various kinds of tools for their survival. (Matsuzawa Decl. ¶ 26). All chimpanzee populations throughout Africa use and make tools of different shapes and sizes to solve technical challenges in their environment. (Boesch Decl. ¶ 22). Chimpanzees have been seen to use diverse and extensive sets of tools helping them to access rich food sources, like ants, termites, honey, water, and hard-shelled nuts. (Boesch Decl. ¶ 22). Jane Goodall first found that chimpanzees use twigs to fish termites in the mound. (Matsuzawa Decl. ¶ 26). Chimpanzees in West Africa use hammer stones and anvils to crack open nuts, while chimpanzees in the Goualougo Triangle use tools to perforate termite nests, puncture termite nests, pound for honey, and use leafy twigs for rain cover. *Id.*

81. Chimpanzees make and use *complex* tools that require them to utilize two or more objects at the same time. (McGrew Decl. ¶ 16). An example is using one stone as a hammer and another as an anvil for cracking hard nuts. *Id.* Chimpanzees also make *compound* tools, in which two or more components are combined into a single working unit. *Id.* The wedge stone, which is inserted under an anvil in order to level its working surface, increases the efficiency of nut-cracking. *Id.* The leaf sponge, in which several fresh leaves are compressed into a single absorbent mass, enables drinking water to be extracted from tree holes. *Id.* *Composite* tools such as these reflect the fact that chimpanzees have the mental capacity to combine components in appropriate ways to achieve a goal. *Id.*

82. Each group of chimpanzees makes and uses a unique combination of tools known as a *tool kit*. (McGrew Decl. ¶ 17). This typically comprises up to 20 different tools that perform various functions in daily life. *Id.* These include tools used for extracting and processing food, such as sticks to open termite mounds, probes to skewer small mammals, twigs to extract marrow from bones of prey, stone hammer and anvil to crack nuts, etc. *Id.* It even extends to using plants in self-medication for illness or injury. *Id.* Tool kits vary from group to group, are passed down generationally, and occur in a wide range of habitats, from savanna to rain forest. (McGrew Decl. ¶ 19).

83. Chimpanzees also use *tool sets*, which entail using two or more tools to achieve a single goal. (McGrew Decl. ¶ 21). Tool sets are a hallmark of intentionality, mental representation, and opportunism. *Id.* Chimpanzees have been known to use a set of five objects—pounder, perforator, enlarger, collector, and swab—to obtain honey. *Id.*

84. Chimpanzees make and use tools for personal comfort and hygiene, including to clean the body; they use stems to comb through hair, twigs to clear their nostrils, and leafy fans to repel insects, etc. (McGrew Decl. ¶ 19). For sleeping, chimpanzees use special ways of bending branches and twigs to make a comfortable bed in the trees or on the ground. *Id.*

85. In the archaeological record, chimpanzee stone tools such as hammers and anvils are preserved just as with human stone tools. (McGrew Decl. ¶ 18). Stone artifacts have been excavated from sites in West Africa, indicating a ‘Stone Age’ that dates to at least 4,300 years ago. *Id.* These chimpanzee artifacts can be compared with early human ones, as indicators of their comparable mental abilities. *Id.* This includes the ability to pass tool-making skills generationally. In at least one population, chimpanzee tool-making has been passed down through 225 generations. *Id.*

10. Emotional Complexity (Empathy and Compassion)

86. Chimpanzees are capable of highly developed empathic abilities. (Jensvold Aff. ¶ 47). (Boesch Decl. ¶ 29) (Matsuzawa Decl. ¶ 23). They exhibit empathy, compassion and recognition when someone else is trying to help them – all complex aspects of self-awareness and autonomy. (Boesch Decl. ¶ 30) (Matsuzawa Decl. ¶ 23). The accumulation of evidence suggests that the emotional systems of chimpanzees may have become specialized to cope with the increasing demands of complex social organization and more elaborate relationships. (Fugate Aff. ¶ 12).

87. Empathy is the ability to put oneself in the situation of another perceptually and cognitively, which is only possible if one can adopt another's perspective. (Boesch Decl. ¶ 29). Empathy, and, in particular, compassion, requires not only a sense of self but the ability to attribute feelings to others, i.e., to understand that someone else could be in a different state than you or could be feeling differently from you. *Id.*

88. Chimpanzees are known to spontaneously provide contact comfort to recent victims of aggression, a behaviour known as consolation. Similar behaviour in human children is attributed to empathic or sympathetic concern. (Matsuzawa Decl. ¶ 23). Clear instances of compassionate care and empathy have been observed among wild chimpanzees towards injured individuals.³² (Boesch Decl. ¶ 30). Moreover, chimpanzees are aware of the intentions of other chimpanzees

³² For instance, responses to others' wounds are not based on simple learning rules because wound licking and tending are only done under specific circumstances, e.g., when the wounded individual is too weak to care for himself or when wounds are in hard-to-reach places. (Boesch Decl. ¶ 30). Wound tending is also done by individuals who are not close family relatives of the injured. *Id.* Saliva has a strong antiseptic property and its regular application to a fresh wound speeds up healing. *Id.* Tai chimpanzees have been observed licking wounds on the injured feet of others and cleaning out a cut over an eye. *Id.*

when being helped. *Id.* Adoption of orphans is rather common in chimpanzees. (Boesch Decl. ¶ 37).

89. One of the neurobiological bases for empathy may be the presence of mirror neurons, special nerve cells in the primate brain, and they are found in the prefrontal cortex of all primates, including humans and chimpanzees. (Fugate Aff. ¶ 18). Chimpanzees exhibit “emotional contagion,” which is a basic form of empathy that results from watching the behavior of others: one example is contagious yawning. *Id.* Chimpanzees who were shown videos of other chimpanzees yawning showed higher levels of yawning than when they were showed open-mouth facial expressions— such behavior provides even further evidence that chimpanzees possess very complex levels of self-awareness and empathic abilities. (Matsuzawa Decl. ¶ 23).

90. The signing chimpanzee Washoe had experienced the death of two infants in her life. (Jensvold Aff. ¶ 47). Years later, one of her human caregivers who had experienced a miscarriage explained to Washoe that her baby had died. *Id.* In a demonstration of empathy, Washoe signed CRY. *Id.*

11. Imitation

91. True imitation is an important indicator of self-awareness, because it suggests that an individual has a sense of their own body and how it corresponds to another, so they can accommodate their movements to the other’s actions. (McGrew Decl. ¶ 25). Studies show that chimpanzees copy methods used by others to manipulate objects and to interact with others. *Id.* Chimpanzees can imitate other chimpanzees (or humans), using an exact sequence of three actions in order to open a box to obtain a treat. *Id.*

92. Chimpanzees also are capable of ‘deferred imitation’, that is, copying actions that they have seen in the past. (McGrew Decl. ¶ 25). Deferred imitation relies on even more

sophisticated cognitive capacities than direct imitation, as it depends on memory skills. *Id.* Moreover, chimpanzees know when they are being imitated, responding just like human toddlers. *Id.*

93. All the capacities of imitation and emulation are necessary for *cumulative cultural evolution*. (McGrew Decl. ¶ 26). This specific kind of culture is found in humans and chimpanzees and involves progressive building upon preceding customs. *Id.* Chimpanzees and humans show striking similarities in mentality via observational learning, copying, decision-making, memory, and innovation cumulative cultural evolution. *Id.*

12. Culture

94. Culture is a set of behaviors transmitted by observational learning, which becomes characteristic of a group or population, resulting in societal traditions. (McGrew Decl. ¶ 22). Culture is *socially acquired* (learned by watching others), *normative* (all individuals take part), and *collective* (characteristic of a community). *Id.* Culture is a hallmark of higher intelligence, based on several complex cognitive capacities: *imitation* (direct mimicking of bodily actions), *emulation* (attending to the results of another's actions, then achieving results in an alternative, often better, way), and *innovation* (inventing new techniques of doing things, often by combining elements). *Id.* In other words, culture requires significant behavioral flexibility and innovation, social learning, cumulative knowledge, and adherence to traditions.” (Boesch Decl. ¶ 21).

95. Chimpanzees show all these abilities. (McGrew Decl. ¶ 22). “The evidence for these capacities in wild chimpanzees is robust and indisputable and our knowledge of the richness of their different cultures continues to grow.” (Boesch Decl. ¶ 21). Chimpanzees possess widespread cultures that are found in all known populations and that distinguish them from other

populations. (Boesch Decl. ¶ 21). Decades of field research reveal many unique chimpanzee cultures spread across sub-Saharan African, from Senegal to Tanzania. (McGrew Decl. ¶ 24).

96. Chimpanzee culture includes rituals and traditions. (McGrew Decl. ¶ 24). The Gombe chimpanzees, for instance, perform a “rain dance,” a slow and deliberate pattern of bipedal locomotory display at the start of a rainstorm. *Id.* Another striking social custom, first observed in the Mahale Mountains in Tanzania, is the ‘grooming hand-clasp,’ in which two chimpanzees grip each other’s hand, raise their arms overhead, and groom each other with the other hand. (McGrew Decl. ¶ 24).

97. Dr. Goodall reported the ‘waterfall display’ in which male chimpanzees show vigorous displays in exaggerated, rhythmic movements before a spectacular waterfall. (McGrew Decl. ¶ 24). For ten minutes or more, they pick up and throw rocks, sand, and branches, leap between hanging vines, and swing over the streambed. *Id.*

98. There are striking similarities in the cognitive mechanisms underlying chimpanzee and human culture. (Boesch Decl. ¶ 21). Chimpanzees show cultural traditions that meet the same criteria used to identify human culture. (McGrew Decl. ¶ 23). Three general cultural domains are found in both humans and chimpanzees: 1) *material culture*, as shown through the use of tool use and tool making; 2) *social culture*, that is, behavior that allows individuals to develop and benefit from social living, and 3) *symbolic culture*, which comprises specific communicative gestures and vocalizations that arbitrarily reflect particular intentions. (McGrew Decl. ¶ 23).

99. Within the same forest, neighbor groups distinguish themselves with different cultural traits that are maintained over decades despite the exchange of females across groups. (Boesch Decl. ¶ 21). New immigrants adopt the cultural traditions of their new group rapidly through social learning allowing for the maintenance of continuity in different traditions within

each group. *Id.* They also show evidence of symbolic cultural traditions based on arbitrary gestures that have no direct connection with their meanings but are understood by all group members. *Id.*

100. The learning process of cultural tradition is called “Education by master apprenticeship.” (Matsuzawa Decl. ¶ 26). It is a form of observational learning that involves the mother as the primary teacher but is not limited to the mother-infant relationship. *Id.* Infants learn from juveniles and juveniles learn from adults. *Id.* The culture and education of wild chimpanzees suggest that chimpanzees do not have formal schooling, but they learn through observation and imitation of their mothers and other members of their social group. *Id.*

13. Perception

101. Chimpanzees, with minimal training, are not only able to recognize familiar individuals but are also able to discriminate different species-typical facial expressions of unfamiliar individuals when presented on a computer screen. (Fugate Aff. ¶ 19). They are also able to extract emotional meaning from short videos depicting behavioral events (e.g., a caregiver giving a chimpanzee a hypodermic injection for veterinary purposes, or researcher rewarding another chimpanzee with food). *Id.* For example, using match-to-sample computerized training, chimpanzees can match a positive facial expression (such as making a “play face”) to positive events and negative facial expressions (such as bared teeth or “scream face”) to negative events, demonstrating that these facial expressions are reliably associated with familiar emotional events. *Id.* Chimpanzees can also match real pictures of familiar chimpanzee individuals to computer-animated facial expressions of them. *Id.*

102. Chimpanzees are able to match cross-modally: Using again the match-to-sample computer paradigm and with minimal training, chimpanzees who were played an auditory vocalization of another chimpanzee were able to match the identity of the caller to the face of the

individual on the screen. Chimpanzees in captivity have also been shown to match a voice recording of a familiar human to the picture of the human. (Fugate Aff. ¶ 20).

103. Categorical perception is a cognitively complex perceptual phenomenon in which the brain of an individual separates continuously varying information into discrete categories. (Fugate Aff. ¶ 21). Chimpanzees are highly attuned to the individual emotional expressions and states of others. (Fugate Aff. ¶ 20). Chimpanzees are not only able to recognize familiar individuals but are also able to discriminate different species-typical facial expressions of unfamiliar individuals when presented on a computer screen. *Id.* Chimpanzees were able to appropriately sort chimpanzee faces that were morphed (blended) between emotional expressions into the two categories of emotions by the percentage of each emotion depicted, showing the basis of a phenomenon known as categorical perception. (Fugate Aff. ¶ 21).

14. Death Awareness and Grieving Rituals

104. An understanding of death requires an ability to recognize the continuity of self and others through time. (Boesch Decl. ¶ 23) Self-recognition, which chimpanzees demonstrate, would be a requirement for understanding the irreversibility of death. *Id.* Chimpanzees exhibit an understanding of death as a kind of irreversible situation. *Id.* Indeed, chimpanzees often respond with elaborate mourning rituals that demonstrate some understanding of the concept of life and its ending. *Id.* Once they come to this realization they enact behaviors which can be described as mournful, respectful, and almost-ritualistic. (Boesch Decl. ¶ 23)

105. Numerous observations from different chimpanzee communities demonstrate a complex group response unique to death involving guarding of the dead body for hours, helping orphans who remain close to their dead mothers, testing for a reaction by shaking the body, grooming the body but not licking blood or wounds as is usually done with injured individuals,

showing signs of sorrow when leaving the body, showing signs of respect by keeping youngsters at bay, and, sometimes, carrying the corpse to a safe place. (Boesch Decl. ¶ 26).

106. One of the most impressive examples of collective community action sometimes occurs after the death of a group member. (McGrew Decl. ¶ 36). Others may perform what amounts to a funeral ceremony, or wake. *Id.* They congregate around the corpse, groom and test it for viability, seeming to seek to arouse it. Then, as if accepting that death has occurred, they maintain a silent vigil that may last for hours. *Id.* This collective action occurs both in nature and in captivity, and there is no obvious material pay-off to the individuals who join in. *Id.*

107. Chimpanzees understand the irreversibility of death. (Boesch Decl. ¶ 28).³³ Relatedly, chimpanzees distinguish between mortal wounds and other kinds of injuries. (Boesch Decl. ¶ 26). Chimpanzees faced with the death of a friend or family member will not immediately give up but, after several attempts, experience strong bouts of grief and distress as they come to the realization that the deceased is not coming back and the condition is irreversible. *Id.*

15. Moral Behavior

108. Chimpanzees behave in ways that, if we saw the same thing in humans, we would interpret as a reflection of self-conscious, moral imperatives. (McGrew Decl. ¶ 28). Chimpanzees demonstrate morality by rejecting, excluding and shunning individuals who violate social norms;

³³ One example of distress at the death of a friend—and the realization that the individual is beyond help—comes from one chimpanzee, Falstaff's, severe injury during a leopard attack and the response of his hunting partner and friend, Snoopy. (Boesch Decl. ¶ 27). Snoopy stayed with the immobile Falstaff for two hours—even though the rest of the males of the community were moving on. *Id.* Snoopy would walk a few steps and look behind him to see if Falstaff was following him. *Id.* He then moved 200 meters north and drummed loudly and repeatedly on a large tree to apparently communicate to Falstaff. *Id.* When Falstaff did not answer, Snoopy let out a loud distressed scream as he finally realized Falstaff was not coming and had to move on. *Id.* In the case of mothers who lose an infant, although they may be hesitant to abandon the corpse, the mothers do not behave towards their dead infants as they would if they were alive and eventually leave them behind. *Id.*

intervene impartially in third-party violence that is disruptive of group life, which reflects community concern; respond negatively to inequitable situations, such as when offered lower rewards when companions are receiving higher ones; and when given a chance to play economic games (e.g. Ultimatum Game), they spontaneously make fair offers, even when not obliged to do so. *Id.*

109. Dr. Goodall wrote about a male chimpanzee in captivity who rescued his human caretaker, Mark Cusano, with whom he had a close relationship, from a very bad attack from three adult females. Mark told Dr. Goodall that the chimp had saved his life. (Goodall Decl. ¶ 27).

110. Dr. Jensvold reported that moral behavior can be demonstrated by chimpanzees' use of the ASL sign SORRY, which they acquired while reared as deaf human children. (Jensvold Aff. ¶ 39).

16. Humor, Imagination, and Play

111. Chimpanzees have a sense of humor and are known to laugh under many of the same circumstances humans laugh, e.g., signing a “joke” or funny statement, during play, when tickled, etc. (Jensvold Aff. ¶ 27). The chimpanzees Dr. Jensvold worked with “demonstrated purposeful communication, conversation, understanding of symbols, perspective-taking, imagination, and humor.” (Jensvold Aff. ¶ 13).

112. Imagination is a key component of mental representation (the ability to represent an object or concept in one's mind), metacognition (the ability to reflect upon one's own thoughts), and the ability to mentally create other realities. (Jensvold Aff. ¶ 24).

113. Dr. Jensvold studied imaginary play in five signing chimpanzees and found strong parallels with that of 2-6 year old human children, including in the categories of animation and

substitution. (Jensvold Aff. ¶ 25). Animation is pretending that an inanimate object is alive, e.g., talking to a teddy bear, and substitution is pretending an object has a new identity, e.g., placing a block on the head as a hat. *Id.* Chimpanzees also engage in imaginary private signing just like human children. (Jensvold Aff. ¶ 23). They create word-play, or transform a sign or its referent to a different meaning, whether it is present or not—an example is placing a wooden block on one’s head and referring to it, in sign, as a “hat.” *Id.*

114. Captive chimpanzees show an interest in drawing and painting. (Jensvold Aff. ¶ 28). Chimpanzee drawings are not random acts on paper, but are deliberate exploratory choices, indicating autonomy. *Id.* Chimpanzees systematically make marks that demonstrate balance and respect for boundaries, which are aspects of aesthetics in human artwork. *Id.* Signing chimpanzees even assign titles to their productions. *Id.*

115. There are reports of imaginary play in wild chimpanzees.³⁴ (Jensvold Aff. ¶ 24). A compelling observation from a chimpanzee field researcher is of an 8-year-old (childhood age) chimpanzee carrying a log like a doll; the chimpanzee carried the log on his back like chimpanzee mothers carry their babies, played tickle games with it like chimpanzee mothers do with their babies, and placed it in a little nest that he made in the trees. *Id.* At night chimpanzees build nests in the trees to sleep. *Id.*

³⁴ Dr. Goodall reported that a 4-year-old wild chimpanzee, Wanda, had been watching her mother, who was perched on a branch above a termite hill, dip a stick into the insects’ hole and pull it out loaded with termites. (Jensvold Aff. ¶ 24). Wanda then picked up a small twig, perched herself on a sapling branch, and poked her stick in a downward direction. *Id.* A similar instance of imaginary play is very common in human children using cups, saucers, pots, and toy stoves to pretend to prepare and serve a meal as they see their parents do—in these instances a child uses adult tools to go through the motions of a common adult activity. *Id.* Be it children using pots for cooking or chimpanzees using twigs for dipping, these are analogous behaviors. *Id.*

116. A very similar behavior to imaginary play is deception; both require behaviors directed toward something that is not there and often involve modeling mental states. (Jensvold Aff. ¶ 26). There are many instances of deception reported in chimpanzees. *Id.*

17. Duties and Responsibilities

117. Similar to humans, chimpanzees bear duties and responsibilities to one another. (McGrew Decl. ¶ 29) (Boesch Decl. ¶ 31) (Jensvold Aff. ¶ 33) (Goodall Decl. ¶ 17). This is evidenced by the obligations chimpanzees fulfill in their social life in the wild, including in areas such as group defense, rescue, assistance to wounded individuals, rewards and punishment in the hunting context, as well as providing support for weak individuals. (Boesch Decl. ¶ 31). Another way this is demonstrated is by their social dynamics. (Jensvold Aff. ¶ 33). For example, the dominant male will provide grooming, access to females, and perhaps access to meat to his primary supporters. Chimpanzees are also highly protective of their communities, and will go to great lengths to defend them. *Id.*

118. Based on his 40 years of observing wild chimpanzees, Dr. McGrew believes “that chimpanzees understand and carry out duties and responsibilities to their peers. They knowingly assume obligations and honor them. Such behavior is essential for maintenance of chimpanzee societies.” (McGrew Decl. ¶ 39).

119. According to Dr. Jensvold, the same is true of captive chimpanzees: “Chimpanzees have duties to each other. Their relationships to each other are even more supportive than those with a human caregiver, no matter their level of fondness for the human.” (Jensvold Aff. ¶ 38).

120. The experts have identified several specific examples of duties and responsibilities among and within chimpanzee communities.

121. Maternal Duties: Chimpanzee mothers show a degree of duty of care to their offspring that rivals humans. (McGrew Decl. ¶ 29) (Goodall Decl. ¶ 17). Maternal behavior is another clear indicator of responsibility. (Jensvold Aff. ¶ 37). The duties and responsibilities of a mother towards her offspring are many and often onerous. (Goodall Decl. ¶ 17). As single mothers, they feed, protect, carry, shelter, and train their offspring for an average of 5.5 years, from birth to weaning. (McGrew Decl. ¶ 29).³⁵ After weaning, chimpanzee mothers continue to groom, support and cooperate with their offspring for the rest of their lives, even into the adulthood of their offspring and the old age of the mothers. *Id.* There have been many instances when mothers have gone to help their fully-grown offspring. (Goodall Decl. ¶ 20).

122. An important component of maternal responsibility is to provide support for her child. (Goodall Decl. ¶ 19). During a play session, if an infant should get hurt and screams – the mother will hasten to support her child, reprimanding the rough playmate even though this may entail retaliation from a more dominant mother. *Id.* When the older child is male, he is often anxious to join groups of adult males, particularly when there is a lot of excitement. Mothers with small infants often prefer to avoid such groups. *Id.*

123. Young female chimpanzees practice for their future maternal behavior by using sticks as ‘dolls’, in a form of symbolic play. (McGrew Decl. ¶ 29).

124. Other Familial Duties: Familial duties are not restricted to mothers. (McGrew Decl. ¶ 30) (Goodall Decl. ¶ 21). Most adult males of a community act in a paternal way to all

³⁵ For three years the infant is dependent on breast milk, and continues to suckle though less often for the next two years until the next baby is born. (Goodall Decl. ¶ 17). Throughout this period the mother continues to carry the infant, at first clinging to her belly and then riding on her back. *Id.* During this time the mother waits for the child before moving off, and she constructs a nest large enough for herself and her child until the next baby is born. *Id.*

infants in their community, rushing to their aid when necessary. (Goodall Decl. ¶ 21).³⁶ Maternal siblings of both sexes supplement their mother, using similar caregiving behaviors. (McGrew Decl. ¶ 30). In female kinship lineages, patterns of familial duties extend through three generations, such that grandmothers participate in the upbringing of their grandchildren. *Id.*

125. Juveniles and adolescents very frequently act responsibly towards their infant siblings. (Goodall Decl. ¶ 22).³⁷ An older sibling will almost always adopt an infant. (Goodall Decl. ¶ 23).

126. Community Duties: Duties of care extend beyond kinship. (McGrew Decl. ¶ 31) (Goodall Decl. ¶ 24). Duties and responsibilities extend beyond the family (lineage) into the realm of the community, which is the basic social unit of chimpanzees. (McGrew Decl. ¶ 32).

127. Unrelated individuals may adopt orphaned infants. (Goodall Decl. ¶ 24) (McGrew Decl. ¶ 31). Such a foster parent need not be female, or even an adult. (McGrew Decl. ¶ 31). Adopted orphans are more likely to survive and thrive, while unadopted infants below the age of weaning almost always perish. *Id.* Such bonds may last a lifetime, even between unrelated males in adulthood, as expressed in sustained grooming, the currency of chimpanzee social life. *Id.* At Gombe, a 12-year-old adolescent male cared for a 3-year-old male orphan, and definitely saved his life. (Goodall Decl. ¶ 24). His altruistic behaviour was most impressive

³⁶ On one occasion two hunters (human) shot a female chimpanzee, seized her infant, and tried to push it into a sack. (Goodall Decl. ¶ 21). As the infant screamed, a male chimpanzee rushed out of the forest, attacked the two men, grabbed the baby, and disappeared into the forest. *Id.* There are many other tales of adult males protecting – or trying to protect – infants from hunters across Africa. *Id.* Tragically they often get killed themselves. *Id.*

³⁷ One 9-year-old female, who had run in terror from a large poisonous snake, nevertheless climbed down from her tree to gather up and carry to safety her 3-year-old brother, who seemed unaware of the danger. (Goodall Decl. ¶ 22). A different adolescent female prevented her infant brother from following their mother when the trail passed through a clump of tall grasses infested, with tiny ticks. *Id.*

when he ran to seize the orphan and got too close to socially roused males – despite the fact that adolescent males normally keep well away from the adult males at such times. *Id.* He often got beaten up for his altruistic behavior, but this did not prevent him from acting in the same way the next time his help was needed. *Id.* The signing chimpanzee Washoe adopted a 10-month-old chimpanzee named Loulis, and proved to be a very protective adoptive mother. (Jensvold Aff. ¶ 37).

128. Chimpanzees show behavior that is lawful and rule-governed. (McGrew Decl. ¶ 37). There are many examples of behavioral regularity that reflect maintenance of a social order: adult males being protective of infants, dominant individuals breaking up fights, adult kin avoiding incest, etc. *Id.* Sometimes there is specific, targeted ostracism of individuals who violate norms, including fatal punishment. *Id.* Systematic, long-term reciprocity of favors is another example of rule-governed social interaction. (McGrew Decl. ¶ 38). A simple example is like-for-like social grooming, while a more complex form is the exchange of differing goods or services (e.g., if I favor you prized food, then later you favor me as a mate; if you support my aggressive attempts to rise in dominance, then I will allow you access to females for mating). *Id.*

129. Social Dominance: Another chimpanzee universal that necessarily entails duties and responsibilities is participation in a hierarchy of social dominance. (McGrew Decl. ¶ 34). The alpha-male's role includes a range of time-and energy-sapping activities, such as intervening in disputes between others, thus maintaining community integrity and preventing injury. (McGrew Decl. ¶ 35). He may oversee the distribution of prized resources, such as meat, after a successful hunt. *Id.* When crossing roads, high-ranking males lead the way by being vigilant for traffic, and bring up the rear, ensuring that others are not left behind. *Id.*

130. Group Defense: Chimpanzees defend territories collectively, unlike the individual territories of most animals; they must work together to defend themselves and their resources against their neighbors. (McGrew Decl. ¶ 32). This duty is essential, and numbers count. (McGrew Decl. ¶ 33).

131. The adult males of a community are responsible for patrolling their territory, chasing away or attacking individuals from neighboring communities – this serves to protect and sometimes increase resources for their own females and young. (Goodall Decl. ¶ 25). *Accord* (McGrew Decl. ¶ 33) (Boesch Decl. ¶ 32). This requires close cooperation and gang attacks. (Goodall Decl. ¶ 25). Even two males who may be engaged in challenging each other for social dominance within the community will join in an attack on a stranger. (Goodall Decl. ¶ 25). Territories are aggressively defended in all chimpanzee populations that have been studied. (Boesch Decl. ¶ 32). According to Dr. McGrew, “[w]hat makes this shared responsibility so impressive is that the same males whose lives depend on one another in the patrol will later compete robustly with one another over access to sexually receptive females. They somehow resolve the contradictions involved in having conflicting interests in different contexts.” (McGrew Decl. ¶ 33).

132. Rescue: Impressive supports by male group members are provided to rescue isolated individuals who have been taken prisoner by intruders. (Boesch Decl. ¶ 33). Outnumbered individuals during intergroup encounters were observed to sustain severe injuries in 40% of the cases, leading to death in 15% of the severe attacks. *Id.* In one example, a single adult male with an adopted infant on his back rushed for 600 meters to rescue an adult female from his group who was trapped and beaten up by five male intruders. *Id.* This spontaneous high level of altruism

toward group members in this chimpanzee population reveals the sense of obligation felt by them to help and protect one another. *Id.*

133. Hunting Responsibilities: Group members realize that anticipating a prey is an essential part of a successful hunting team and they place an equally high value on this as doing the capture itself. (Boesch Decl. ¶ 35). Hunting roles requiring anticipation of the prey movements are as equally well rewarded as capturing the prey, even if the individuals doing such movements were not making a capture. *Id.* Conversely, the rewarding of certain actions leads to the passive punishment of individuals present during the hunt but did not participate in it (such individuals received 2.6 times less meat than hunters). (Boesch Decl. ¶ 36).

134. Human Chores: Dr. Jensvold worked with five chimpanzees over nearly three decades studying how they use American Sign Language to communicate with humans and each other. (Jensvold Aff. ¶ 34). For decades, the daily routine at the Central Washington University laboratory in Ellensburg, Washington, involved the chimpanzees participating in numerous activities with caregivers—including husbandry duties. *Id.* For example, in the mornings, the chimpanzees helped clean enclosures by returning their blankets from the night before. (Jensvold Aff. ¶ 35). The chimpanzees all participated; it was the duty that the caregivers placed upon them. *Id.* When new caregivers appeared, the chimpanzees sometimes made an attempt at ditching their duties, but eventually they bore the responsibility of returning blankets and other objects in the enclosure to the caregiver. *Id.* This was done without bribery. *Id.*

C. Chimpanzees have complex physical, psychological, and social needs, and the failure to meet those needs in captivity is physically and psychologically harmful.

135. Chimpanzees are autonomous and highly cognitively complex beings, possessing complex physical, psychological, and social needs. (Matsuzawa Decl. ¶ 32). When held in

captivity, chimpanzees must be kept in a suitable environment that can meet their complex needs. *Id.* Their care in captivity requires a sound knowledge of the species and standards of care. (Jensvold Aff. ¶ 50).

1. Social Needs (Freedom to Socialize)

136. Chimpanzees are highly social animals. (Matsuzawa Decl. ¶ 32) (Jensvold Aff. ¶ 29). Chimpanzees have a fundamental need to socialize as part of their daily life, including by greeting, grooming, and moving together with other chimpanzees. (Matsuzawa Decl. ¶ 32).

137. In the wild, they live in groups of 20-200 individuals. (Jensvold Aff. ¶ 29). Within these communities, chimpanzees have fluid subgroups that adjust to social and environmental contexts and have relationships that last a lifetime. *Id.* Their developmental milestones show their emotional and biological similarities with humans. *Id.*

138. During childhood, a young chimpanzee remains with the mother and the younger sibling. (Jensvold Aff. ¶ 30). Between 10-12 years of age, chimpanzees enter puberty. During this time, they spend more time with other community members socializing and strengthening peer relationships. *Id.* Male chimpanzees have a strong bond with their mothers. (Matsuzawa Decl. ¶ 28). Males stay in their natal community for the duration of their lives which may last 50-60 years. (Jensvold Aff. ¶ 30) (Matsuzawa Decl. ¶ 28). In contrast, female chimpanzees disperse from their natal communities, an adaptive behavior to avoid incest (Matsuzawa Decl. ¶ 28).

139. Chimpanzee social life is cooperative. (McGrew Decl. ¶ 27). Males have a social hierarchy characterized by Machiavellian-type politicking and maneuvering through the ranks by forming alliances based on kinship, friendship, charisma, and sometimes fear-mongering. (Jensvold Aff. ¶ 30). They form close alliances and coalitions with other males in lifelong bonds, and bond together to defend the community against neighboring communities. (Jensvold Aff. ¶

30). They engage in collaborative hunting, in which different individual hunters adopt different roles that increase the chances of collective success in the hunt. (McGrew Decl. ¶ 27). Males cooperate in territorial defence, when they engage in repelling boundary incursions, reflecting a purposeful and well-coordinated society. *Id.*

140. Species-typical social interactions of chimpanzees in the wild include greetings upon meeting others, such as embraces and kisses, and reassurance in times of excitement, such as calming touches. (Jensvold Aff. ¶ 31). Interactions include hours spent grooming, which has a hygiene function but more importantly serves to reinforce bonds and decrease stress. *Id.* Wild chimpanzees spend 6-33% of their waking time grooming with other chimpanzees. *Id.*

141. Because chimpanzees are extremely social beings, they should not be isolated from one another. (Matsuzawa Decl. ¶ 32). In captivity, it is imperative that chimpanzees can engage in appropriate and meaningful social interactions with other chimpanzees. *Id.*

2. Habitat Needs (Freedom to Move)

142. Chimpanzees have a fundamental need to move freely. (Matsuzawa Decl. ¶ 32). Chimpanzees spend 10-20% of their time traveling, so they need adequate opportunities to move around both on and off the ground. (Jensvold Aff. ¶ 66).

143. Outdoor Environment: An appropriate outdoor environment is essential for meeting the complex needs of chimpanzees. (Matsuzawa Decl. ¶ 31). Chimpanzees need access to the sun, water, and various plants and vegetation. *Id.*

144. Climbing Structures: Chimpanzees are an arboreal species, meaning they live off the ground and are natural climbers. (Jensvold Aff. ¶ 65). Chimpanzees live in the forest and walk on the ground, but spend more time in the trees. They build nests in the trees at night and sometimes during the day. *Id.* Enclosures must therefore include climbable surfaces, such as sturdy fencing,

catwalks, various structures, hoses, ropes, and hammocks that create places and pathways above the ground. (Jensvold Aff. ¶ 66). *See also* (Matsuzawa Decl. ¶ 31) (“chimpanzees need high climbing frames because they are an arboreal species; they spend hours in trees in the wild.”).³⁸

145. Multiple habitats: Chimpanzees need multiple connecting habitats—such as outdoor compounds and cages connected by the corridors—since they live in a “fission-fusion” society. (Matsuzawa Decl. ¶ 31). Chimpanzees need the freedom to move from one place to the next with changing partners. *Id.*³⁹

146. Environmental Enrichment: Because chimpanzees are autonomous and highly cognitively complex, they need to live in a socially and physically enriched environment. (Matsuzawa Decl. ¶ 31).⁴⁰ Chimpanzees should receive 10-20 different objects daily and should receive appropriate new objects at least twice daily. (Jensvold Aff. ¶ 60).

3. Foraging Needs (Freedom to Forage)

147. While diet is part of an enrichment program, it also is a separate consideration. (Jensvold Aff. ¶ 63).

³⁸ Enclosure size requirements are varied. While the Animal Welfare Act mandates 25 ft², the Institute of Medicine report recommended 1000 ft² but NIH revised that to 250 ft² (NIH, 2014). Even the largest chimpanzee enclosures are a small fraction of the size of chimpanzee home ranges. (Jensvold Aff. ¶ 67).

³⁹ A troop of macaque monkeys or a group of gorillas, for example, can be kept in one place because they form a group and always move together; however, chimpanzees should *not* be kept in one place because they need to have fission-fusion parties. (Matsuzawa Decl. ¶ 31).

⁴⁰ Environmental enrichment is the provision of a stimulating physical environment, including enclosures, permanent structures within enclosures, and temporary structures such as hammocks and swings; a social environment, meaning social housing and friendly relationships with caregivers; activities such as painting and grooming; food stimulation including a varied diet, forages, and food puzzles; and objects including toys, clothing, paper, magazines, hairbrushes, mirrors, and puzzles. These programs are meant to stimulate the natural behaviors of tool use, object manipulation, problem solving, and foraging needs, to name a few. (Jensvold Aff. ¶ 59).

148. Chimpanzees have a fundamental need to forage freely. (Matsuzawa Decl. ¶ 32). In the wild, chimpanzees have the freedom to choose when to eat, what to eat, and where to eat. *Id.* The habitat on land allows chimpanzees to consume grass, shrubs, bark, and other vegetation. (Matsuzawa Decl. ¶ 31). Chimpanzees in the wild eat hundreds of different foods such as vegetation, fruits, nuts, insects, reptiles, and mammals. (Jensvold Aff. ¶ 63).

149. Chimpanzees make and use many types of tools to acquire foods, such as sticks to fish for termites in mounds or alga in still ponds, and rocks to crack nuts. (Jensvold Aff. ¶ 63). In the wild, chimpanzees use hundreds of tools, including: sticks to dip into termite mounds and into honey bee nests (using a long one for stinging bees and a short one for stingless bees); large sticks to punch holes in the ground; leaves for sponging up water, wiping faces and rears, protection for feet from thorny walking surfaces; and stones for hammers and anvils in nut cracking. (Jensvold Aff. ¶ 58). When given the opportunity, chimpanzees in captivity also use a myriad of tools—such as screwdrivers, paintbrushes, hammers, forks, spoons, crayons, clothing, hairbrushes, toothbrushes, and iPads. *Id.*

150. In captivity, chimpanzees must receive a varied and diverse diet with a variety of ingredients. Specific nutritional requirements include high fiber, fruit, vegetables, and protein. In captivity, food must be presented in ways to promote foraging which can create enriching activities. Cardiac disease and diabetes are concerns in chimpanzee health and poorly planned diets can contribute to these problems. (Jensvold Aff. ¶ 63). In the appropriate sanctuaries, where there is natural vegetation such as grass, shrubs, trees, etc., chimpanzees can freely access edible items. (Matsuzawa Decl. ¶ 32).

4. Harms of Captivity

151. The failure to meet the essential needs of chimpanzees causes them to suffer physically and psychologically. (Matsuzawa Decl. ¶ 33); *accord* (Jensvold Aff. ¶ 65) (“When such furnishings and conditions are lacking, the captive chimpanzee will likely suffer physiological harm.”).

152. Longevity: Chimpanzees in captivity live for 45 years on average. (Matsuzawa Decl. ¶ 29). Wild chimpanzees may survive for more than 60 years and have a long post-reproductive period after menopause. *Id.*

153. Social Deprivation: Social interaction and stimulation are essential for a chimpanzee’s development, health, and well-being. (Jensvold Aff. ¶ 30). Chimpanzees have a high degree of choice in their participation in subgroups. *Id.* An individual can spend time on the periphery of the community or move through different subgroups depending on activities such as sexual grouping, feeding parties, mother and offspring groups, or hunting. This social flexibility is absent in captive environments and determined wholly by caregivers. In captivity, groups of chimpanzees are typically smaller and less fluid than in the wild.

154. When chimpanzees are not provided the ability to live with adequate social groups and social stimulation during their formative years, they suffer from psychological harm reflected in the exhibition of abnormal behavior and self-injurious behavior, and are at risk of becoming less likely to be able to form appropriate social relationships in the future. (Jensvold Aff. ¶ 56).

155. As Dr. Jensvold details in her affidavit, chimpanzees are likely to suffer psychological and physical harm when deprived of adequate opportunities to engage in social and tactile behaviors, such as grooming and playing with members of their own species. (Jensvold Aff. ¶ 51). Chimpanzees raised in social isolation show severe deficits and abnormalities, such as

increases in a variety of abnormal behaviors including rocking, swaying, thumb-sucking, eye-poking, biting, over-grooming, coprophagy (ingestion of feces), and head banging. *Id.*

156. The harm caused by inadequate social groupings also is reflected in physical changes in a chimpanzee's brain. (Jensvold Aff. ¶ 55). In a recent study, chimpanzee brains were more developed in mother-reared chimpanzees, mirroring earlier studies reporting that human children who have experienced neglect and adverse rearing conditions also have brain abnormalities. *Id.*

157. Boring Environment: Free-living chimpanzees lead a cognitively and socially rich stimulating life that requires them to engage in constant problem-solving, tool making, and tool use. (Jensvold Aff. ¶ 57). A lack of stimulation in the social realm and object/physical realm presents a risk of harm to captive chimpanzees. *Id.*

158. The effects of unenriched environments can result in stereotypical and abnormal behaviors, aberrant self-directed behaviors (such as self-manipulation, self-scratching, self-grasping, and self-injurious behavior), increased aggression, decreased exploration, low dominance rank, and reduced or abnormal sexual behaviors. (Jensvold Aff. ¶¶ 12, 54). Chimpanzees reared in environmentally deprived conditions exhibited many behavioral abnormalities and problems not exhibited by chimpanzees reared by their mothers. (Jensvold Aff. ¶ 52). The deprived chimpanzees typically developed stereotypies (abnormal, repetitive, seemingly meaningless behaviors) such as rocking and head banging. *Id.*⁴¹

⁴¹ Chimpanzees who were reared in a deprived environment for 2-2.5 years had deficits that lasted a lifetime. (Jensvold Aff. ¶ 52). In another study, chimpanzees pulled from their biological mothers and raised by humans in a laboratory nursery ("nursery-reared") showed more rocking and self-sucking than mother-reared chimpanzees. In yet another study, laboratory chimpanzees reared apart from their mothers exhibited poor social skills, fear of novelty, and difficulty coping. (Jensvold Aff. ¶ 53).

159. Decades of research points to the profound impact of the quality of the environment on the nervous system of chimpanzees and the reason for environmental enrichment. (Jensvold Aff. ¶ 61). Other research demonstrates that chimpanzees' psychological growth and ability will become depressed when they are reared in less stimulating environments. (Jensvold Aff. ¶ 62).

160. Insufficient Space: Outdoor access has a major impact on chimpanzee behavior. (Jensvold Aff. ¶ 69). A study comparing the behavior of pairs and trios of chimpanzees housed exclusively indoors, or with access to the outdoors, found that those groups with access to outdoors showed significantly less abnormal behavior, less yawning (a tension-related behavior), and more self-grooming. *Id.*

161. Inadequate Diet: Foraging for food is a large part of how wild chimpanzees spend their days, exercising their autonomy. (Jensvold Aff. ¶ 63). Chimpanzees are often denied this ability to forage freely in artificial environments such as zoos, where feeding decisions are made by human caretakers. (Matsuzawa Decl. ¶ 32). While zoos may provide chimpanzees with the fundamental freedom of eating, the feeding time is strictly controlled by caretakers, not by the chimpanzees. (Matsuzawa Decl. ¶ 31). In that sense, the freedom of eating is not really free like in the wild. *Id.* Environmental enrichment programs that include food puzzles and/or scatter browse are meant to emulate the challenges of food procurement in the wild, although they seldom come close. (Jensvold Aff. ¶ 64).

162. Diets for chimpanzees in zoos and laboratories include primarily monkey chow with some fresh fruit and vegetables. (Jensvold Aff. ¶ 64). Chow is a highly processed kibble-type food that requires no processing skills. *Id.* Sanctuaries endeavor to provide a variety of foods with diverse ingredients, preparation style, and presentation. Additionally, sanctuaries will adjust to the

needs of individuals. A proper captive chimpanzee diet requires planning, preparation, time, and funding. *Id.*

163. Poor Caregivers: Caregivers play a crucial role in captive chimpanzee care. (Jensvold Aff. ¶ 72). Caregivers should have a deep knowledge of the species and know each individual's history, personality, preferences, and dislikes. *Id.* They must also understand potential social partners and groupings. (Jensvold Aff. ¶ 32). It is of utmost importance that caregivers receive specific training in chimpanzee behavior and husbandry to provide the quality of care that they require. (Jensvold Aff. ¶ 74). When appropriate training and knowledge are lacking, caregivers are unable to read and understand the chimpanzees' needs. This results in a failure to recognize problems that—if undetected and unaddressed—are likely to lead to psychological injuries, physical illnesses, and even death. (Jensvold Aff. ¶ 75).

D. The DeYoung Family Zoo is a completely unacceptable place for chimpanzees because it cannot meet their complex needs and prevents them from exercising their autonomy.

164. The Expert Affidavits and Declarations collectively demonstrate that DFZ is a completely unacceptable place for chimpanzees. Dr. Jensvold and Dr. Matsuzawa reviewed videos and photographs of DFZ (see here: <https://rb.gy/57pbv>) and confirm this conclusion.⁴² See (Jensvold Aff. ¶ 98) (“The DFZ is a completely unacceptable place for chimpanzees.”); (Matsuzawa Decl. ¶ 34) (“[T]he current situation for the chimpanzees at the zoo seems far from acceptable. It does not appear that the DeYoung Family Zoo can provide chimpanzees with a normal life appropriate for their species.”).

⁴² A thumb drive containing the videos as well as hard copies of the photographs are attached to Jake Davis's affidavit. These videos and photographs are true and accurate representations of the ones Mr. Davis captured at the zoo on August 21, 2023. (Davis Aff. ¶ 3).

165. With no accreditation displayed on its website, DFZ is properly classified as a roadside zoo. (Jensvold Aff. ¶ 97). The zoo does not meet the AZA standards for chimpanzee care, let alone the rigorous standards of a GFAS-accredited sanctuary. *Id.* The USDA is the only organization providing oversight of the zoo, and its standards are minimal and wholly insufficient. *Id.* Unlike GFAS, the USDA does not have specific standards that address the complex needs and autonomy of captive chimpanzees. *Id.*

166. Based on the videos and photographs of the zoo, Dr. Jensvold made the following observations: “There does not appear to be any protected outdoor space at DFZ. This would mean that if the chimpanzees are allowed outside, they would be exposed to adverse conditions. In extreme cold and snow, chimpanzees can easily develop frostbite or hypothermia. So it’s either that or they are stuck inside for many months.” (Jensvold Aff. ¶ 70). She added: “I observed one outdoor enclosure with a woven wire top for chimpanzees. There is no shelter on the top of the enclosure, so rain and snow can enter the enclosure. There is no indication from the photographs and videos I’ve observed that there is sheltered outdoor space. I estimate the outdoor enclosure to be about 25 x 25 ft. The building beside it is about the same and that is attached to a smaller building. During winter months it is likely that the outdoor enclosure is filled with snow. The average annual snowfall in Wallace, MI is 47 inches per year. The ground is frozen all winter. This would mean the outdoor enclosure would be largely unusable for chimpanzees. Keeping the chimpanzees inside all winter would be physically and psychologically harmful. They need access to fresh air and sunshine all year.” (Jensvold Aff. ¶ 68).

167. Dr. Jensvold also reviewed USDA records of DFZ spanning from 2013-2023 (see records here: <https://bit.ly/3sy6cH2>). (Jensvold Aff. ¶ 85). She noted that the number of chimpanzees at DFZ has fluctuated from 2 in 2016, 5 in 2017, 8 in 2018, and 7 in 2022. (Jensvold

Aff. ¶ 93). The USDA records include inspection reports and responses to many animal welfare complaints. (Jensvold Aff. ¶ 85).

168. The records reveal that Prisoner A (aka Louie), who has been at DFZ since he was six weeks old, has essentially lived alone for more than half his life, if not his entire life. (Jensvold Aff. ¶ 86). For a chimpanzee, this is utterly unacceptable. The cognitive development of chimpanzees is much like human children, and the need for social interactions is essential for normal development. *Id.* Dr. Jensvold thus concludes: “What Louie has endured is highly detrimental to his psychological well-being, mental health, growth, and development.” *Id.*

169. As stated by Dr. Jensvold’s late colleague, Dr. Steve Ross: “Providing captive chimpanzees with a rich, dynamic, and stable social environment is likely the single most important element in promoting chimpanzee well-being.” (Jensvold Aff. ¶ 90). Yet over a period of at least 8 years, Louie has not been provided with an adequate social environment. *Id.*

170. In 2016, the records indicate that Louie lived in a cage beside a monkey and they would pass a ball between them, which is absolutely inadequate for meeting the complex needs of chimpanzees. (Jensvold Aff. ¶ 88). Captive chimpanzees need to be able to engage in species-typical behaviors, and monkeys and chimpanzees do not share the same behaviors. *Id.*

171. In 2018, the USDA inspector noted that Louie (then 8 years old) “is still singularly housed.” (Jensvold Aff. ¶ 90). A chimpanzee held alone in an enclosure is in solitary housing, even if there is an adjacent enclosure with another chimpanzee. *Id.* By 2018, Louie had been housed with humans and took trips at times to be adjacent to the other chimpanzees at the zoo. (Jensvold Aff. ¶ 89). This housing arrangement constitutes solitary housing, which is severely harmful. *Id.* With nearly a lifetime of solitary housing, Louie will not know how to be a normal chimpanzee. (Jensvold Aff. ¶ 91). Former pet chimpanzees like Louie have the most difficult time socializing

with other chimpanzees. *Id.* As adults they show higher levels of hair cortisol, which is an indicator of stress. *Id.* This fact, coupled with the need of chimpanzees for social stimulation, shows that Louie has been severely psychologically harmed by his life at DFZ. *Id.*

172. The 2018 USDA inspector reported that Louie was “very well-behaved” (p. 284), probably meaning calm and compliant. (Jensvold Aff. ¶ 94). However, being “very well-behaved,” whatever that means for a chimpanzee, is *not* an indicator of psychological well-being; species-typical behaviors are. *Id.*

173. The USDA records indicate that a chimpanzee named Tommy, who died in 2022, had likely been living alone since his arrival in 2015 (Jensvold Aff. ¶ 92). The solitary housing would have caused Tommy psychological harm. *Id.*

174. The 2018 inspection report (p. 281) notes that the DFZ owners had been hand-raising an infant female chimpanzee, who had been removed from her mother because the mother was not taking adequate care of her. (Jensvold Aff. ¶ 93). This raising of a chimpanzee without proper social housing is highly detrimental to chimpanzee well-being. (Jensvold Aff. ¶ 92).⁴³

175. The 2018 inspection report also states that stereotypical behavior was not observed, but this does not mean the chimpanzees were not exhibiting such behavior at other times. Stereotypical behavior, which is a sign of brain damage, often occurs when chimpanzees are calm and otherwise unoccupied. As highly social beings, chimpanzees are usually pretty busy during an inspection when there are strangers around. (Jensvold Aff. ¶ 95).

⁴³ Dr. Jensvold also observed in the videos she watched: “two females had sexual swellings indicating they were receptive. There also was a male in the enclosure. This would indicate to me the potential for breeding.” (Jensvold Aff. ¶ 76).

176. Finally, the inspection reports confirm that the chimpanzees are housed indoors for the duration of the winter, which, as indicated earlier, is extremely harmful to their physical and psychological well-being. (Jensvold Aff. ¶ 96).

E. The DeYoung Prisoners can have their complex needs met and exercise their autonomy at a chimpanzee sanctuary accredited by the Global Federation of Animal Sanctuaries.

177. The experts recommend that the DeYoung Prisoners should be sent to a GFAS-accredited chimpanzee sanctuary so that they can exercise their autonomy and have their complex needs met. (Jensvold Aff. ¶ 97) (Matsuzawa Decl. ¶ 34) (McGrew Decl. ¶ 40).

178. In GFAS-accredited sanctuaries, the culture of care stands apart from that of other traditional wildlife facilities. (Jensvold Aff. ¶ 82). One of the ways that sanctuaries better serve the chimpanzees in their care is by providing them with a home for the duration of their lives. *Id.* GFAS-accredited sanctuaries never trade animals with other facilities, transfer them for breeding, or relocate animals to free up space. *Id.* Accredited sanctuaries do not breed chimpanzees. (Jensvold Aff. ¶ 76). Zoos often remove unruly adolescent males, sending them to other zoos. (Jensvold Aff. ¶ 77). According to Dr. Jensvold: “This disruption is completely unnatural. Zoos may also transfer chimpanzees to other zoos for breeding purposes. Transfer and breeding are forbidden in GFAS-accredited sanctuaries and there must be contraception plans.” *Id.*

179. Sanctuaries operate from an ethic of service to each animal as an individual with a certain personal history, and to meeting their needs as best as possible in captivity. (Jensvold Aff. ¶ 81). From that ethic comes certain practices, including the “resident first” philosophy and practice (as opposed to consideration of other issues such as visitor experiences), no breeding, and no impositions on well-being and autonomy (that is, no performances, demonstrations, or close

contact with the public). These principles and practices of sanctuaries are meant to be reparative and healing. *Id.*

180. A key characteristic of the caregiver-resident relationship in sanctuaries is a lack of human domination, a recognition of the offset of control, and an emphasis on providing the animals with opportunities to exert control as already described (in other words, opportunities to act autonomously). (Jensvold Aff. ¶ 73). Caregivers are completely focused on the animals in their care, without the distractions associated with exhibition and ambassador programs of zoos. *Id.*

181. GFAS stipulates standards of care for non-human animals in GFAS-accredited sanctuaries and has a manual specific to great ape care. (Jensvold Aff. ¶ 78). GFAS has requirements and standards for enclosure size and design, diet, environmental enrichment, veterinary care, daily husbandry such as enclosure cleaning and sanitation, social housing, caregiver training, qualifications, and care protocols and on-site inspections. It requires annual updates and has a renewal process every three years that includes an on-site inspection. *Id.*

182. GFAS Housing: GFAS requires that great apes, which includes chimpanzees, be housed in an environment that allows them to move about freely and rapidly and exercise choice in location. (Jensvold Aff. ¶ 78). Apes must have as much outdoor access as possible whatever the climate. *Id.* Outdoor enclosures must be a minimum of 5,000 sq. ft for 5 apes, with 250 sq. ft. for each additional ape. Outdoor enclosures with a top must be a minimum of 20 ft. For indoor enclosures, GFAS requires at least two rooms per group. Minimum room size is 200 sq. ft. per pair of apes with an additional 50 sq. ft. per ape. The minimum height is 15 ft. indoors. There must be furniture or walkways to access the vertical space. The GFAS standards have details on the design of the enclosures. Enclosures must have appropriate complexity with combinations of visual barriers, climbing structures, resting platforms, handholds, ropes, fire hoses, and cargo nets. The

design must allow access for all individuals, including elderly apes and those with physical limitations. Indoor enclosures must have spaces to sleep above the ground. (Jensvold Aff. ¶ 78).

183. GFAS Enrichment: GFAS provides detailed information on a standard enrichment program to provide for behavioral and psychological well-being and promote species-appropriate behaviors. GFAS requires a complete environmental enrichment program in a written protocol, which must include different categories of enrichment: structural enrichment such as benches, climbing structures, ropes and hammocks; object enrichment such as straw blankets, paper, cardboard, mirrors, dolls, and toys; and food enrichment such as treat dipping and raisin tubes. Another enrichment category is social enrichment, which entails affiliative interactions with caregivers when appropriate. The enrichment plan must include novelty—which means there must be complexity, variability, and many objects. GFAS stipulates consideration for the individual's history in the plan for objects, diet, bedding, and social enrichment. (Jensvold Aff. ¶ 78).

184. GFAS sanctuaries must maintain daily records including notes on meals. The meal plan should include ways to ensure each individual chimpanzee receives their meals, and caregivers must watch to ensure this is happening. (Jensvold Aff. ¶ 79).

185. GFAS also considers physical well-being in its standards. (Jensvold Aff. ¶ 80). Chimpanzees should be able to enjoy lives as close as possible to their wild counterparts and have opportunities to engage in species-typical behaviors. *Id.* This requires regular assessments to ensure that chimpanzees have an appropriate social environment. *Id.* Social housing for chimpanzees should allow for fission-fusion groupings, which is when an individual is able to split off from a larger group and spend time with subgroups. This enables chimpanzees to have choice and autonomy in their social groups. *Id.*

186. Sanctuary life for chimpanzees: The specialized and individualized care that GFAS-accredited sanctuaries offer to chimpanzees is exemplified by Dr. Jensvold's account of what daily life is like for the resident chimpanzees at the Fauna Foundation, a GFAS-accredited sanctuary where she works. (Jensvold Aff. ¶ 83). Their life is full of options and activities. As Dr. Jensvold explains: "Chimpanzees are offered enrichment, meals, and snack choices throughout the day. Breakfast maybe fruit and farina. Later in the morning when caregivers clean enclosures, the chimpanzees have the option to move to another location and the timing and sequence of the cleaning routine is determined by the chimpanzees. If a chimpanzee wants to remain in a room that needs to be cleaned, they can. The room will be cleaned later when the chimpanzee wants to leave. At points throughout the day, caregivers may take a break to play a game of chase or a quiet grooming session with one of the chimpanzees—caregivers are friends with the chimpanzees, as well as 'servants' who fill the chimpanzees' requests for activities, objects, and enrichment. The chimpanzees have access to caregivers for most of the day. This gives the chimpanzees more control and autonomy than those confined in zoos per se where caregivers leave to care for other animals." (Jensvold Aff. ¶ 83).

187. That is not all. At the Fauna Foundation, the caregivers will have a plan for the day to stimulate and encourage diversity in activities and avoid the routinizing effects that can occur in zoo institutions. (Jensvold Aff. ¶ 84). Dr. Jensvold writes: "A forage or food puzzle is offered each day. Morning snack options may include a muffin and tea snack mid-morning. After cleaning the chimpanzees have access to an assortment of fresh vegetables. They can choose and take what they want and when they want from a shelf. Lunch is served individually on plates and bowls. This day it may be lentil soup. Another activity is offered in the afternoon such as blowing bubbles,

watching videos, a manicure, painting, or coloring. The chimpanzees often entertain each other with vigorous play or intense grooming.” *Id.*

188. Moreover, the chimpanzees at Fauna live in groups—because having the company of other chimpanzees is essential to their well-being. (Jensvold Aff. ¶ 84). Dr. Jensvold writes: “Fauna offers fission-fusion groupings so certain chimpanzees may visit with compatible neighboring chimpanzees who are outside of their usual group—these groupings are wholly determined by the chimpanzees’ desires. For instance, Tatu uses sign language to tell caregivers who she would like to visit and for how long. The evening routine includes a supper bag made individually for chimpanzees’ preferences and blankets for nesting.” (Jensvold Aff. ¶ 84).

189. The socially and physically rich environment offered to chimpanzees at GFAS-accredited sanctuaries is simply not possible at DFZ.

III. Jurisdiction and Venue

A. Jurisdictional Statement

190. This Court has jurisdiction over the Complaint under both Michigan common law and the Michigan habeas corpus procedural statute. *See* MCL 600.4304 (“The circuit courts, or a judge thereof” may issue a “writ of habeas corpus to inquire into the cause of detention, or an order to show cause why the writ should not issue.”); *In re Hicks*, 20 Mich. 129, 134 (1870) (noting that the “writ of *habeas corpus*” is a proceeding “allowed by the common law”); *In The Matter of Elizabeth Denison, et al., No. 60.*, 1807 WL 1109, at *1 (Mich. Sept. 26, 1807) (“[w]hen a statutory method of investigating the right to freedom is not provided, the common-law writ of habeas corpus is appropriate.”).⁴⁴

⁴⁴ MI CONST Art. 3, § 7 provides: “The common law and the statute laws now in force, not repugnant to this constitution, shall remain in force until they expire by their own limitations, or are changed, amended or repealed.” *See In re Sanderson*, 289 Mich. 165, 174 (1939) (“The common law, including

191. No previous application for a writ of habeas corpus has been made on behalf of the DeYoung Prisoners in Michigan.

B. Venue

192. Venue is proper in this Court because the action is commenced in the county of detention. *See* MCR 3.303 (A) (“The action must be brought in the county in which the prisoner is detained.”). The chimpanzees are imprisoned at DFZ, which is in Wallace, MI.

C. Standing

193. NhRP has standing to file the Complaint. Michigan’s “statute relating to habeas corpus proceedings specifically provides for the filing of the petition by ‘some person’ other than the one whose alleged unlawful restraint is in issue. . . . For obvious reasons such provision has been *liberally construed*.” *Ex parte Fuller*, 334 Mich. 566, 572 (1952) (emphasis added). *See id.* (“A [habeas] petition filed by a parent, a spouse, a close relative, an attorney, or a friend, has been recognized by this Court as sufficient to confer jurisdiction to inquire into the matter of an alleged illegal restraint.”). In *In re Nowack*, 274 Mich. 544, 549 (1936), the court declared: “*Any person* may sue out a writ of habeas corpus.” (citing *In re Mould*, 162 Mich. 1 (1910) (emphasis added)).

194. MCL 600.4307 provides: “An action for habeas corpus to inquire into the cause of detention may be brought by *or on behalf* of any person restrained of his liberty within this state under any pretense whatsoever, except as specified in section 4310.”⁴⁵ (emphasis added). MCR

the English statutes of general application, made the law of the Northwest Territory by the ordinance of 1787, continued to be the law of Michigan during the territorial period.”).

⁴⁵ MCL 600.4310 does not apply here. It provides: “An action for habeas corpus to inquire into the cause of detention may *not be brought* by or on behalf of the following persons: (1) Persons detained by virtue of any process issued by any court of the United States, or any judge thereof, in cases where such courts or judges have exclusive jurisdiction under the laws of the United States, or have acquired exclusive jurisdiction by the commencement of suits in such courts; (2) Persons committed for treason

3.303 (B) also provides: “habeas corpus may be brought by the prisoner or by *another person on the prisoner’s behalf*.” (emphasis added). The comments specify that Subrule (B) was added to make “explicit” that “the action may be brought on behalf of a prisoner *by another person*.” *Id.* (emphasis added). This is a continuation of the English common law, which allowed habeas corpus petitions to be brought by a stranger on behalf of another: “*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) (emphasis added).⁴⁶

195. NhRP has filed seven habeas corpus petitions on behalf of an elephant and four chimpanzees in New York and none of the courts found that NhRP lacked standing. In fact, in two

or felony, or for suspicion thereof, or as accessories before the fact to a felony, where the cause is plainly and specially expressed in the warrant of commitment; (3) Persons convicted, or in execution, upon legal process, civil or criminal; (4) Persons committed on original process in any civil action on which they were liable to be arrested and imprisoned, unless excessive and unreasonable bail is required.”

⁴⁶ *Accord* JUDITH FARBEY ET AL., THE LAW OF HABEAS CORPUS 237 (3d ed. 2011). *See also* *Whitmore v. Arkansas*, 495 U.S. 149, 162 (1990) (“the English Habeas Corpus Act of 1679 authorizes complaints to be filed by ‘any one on . . . behalf’ of detained persons . . . and in 1704 the house of lords resolved ‘that 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’”); Rollin C. Hurd, *A Treatise on the Right of Personal Liberty and on the Writ of Habeas Corpus* 212 (1858) (“An agent or friend may make it on behalf of the prisoner”); *Lemmon v. People*, 20 N.Y. 562 (1860) (abolitionist stranger obtained a writ of habeas corpus on behalf of eight slaves); *In re Kirk*, 1 Edm.Sel.Cas. 315 (1846) (abolitionist stranger obtained a writ of habeas corpus on behalf of a slave); *Commonwealth v. Taylor*, 44 Mass. 72 (1841) (abolitionist stranger obtained a writ of habeas corpus on behalf of a child slave); *Commonwealth v. Aves*, 35 Mass. 193 (1836) (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*, HCA 11, 85 (2000) (High Court of Australia) (stranger may seek habeas corpus), <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), <https://bit.ly/3JyAyLI>; *Boudreau v. Thaw*, 13 D.L.R. 712 (Quebec Sup. Ct. 1913) (stranger obtained a writ of habeas corpus), <https://bit.ly/3xiATQ9>; *Gootoo and Inyokwana*, 35 Sol. Jo. 481 (1891) (stranger and member of antislavery society obtained a writ of habeas corpus on behalf of children destined for slavery abroad), <https://bit.ly/3uu9EkI>; *Case of Hottentot Venus*, 13 East 185, 104 Eng. Rep. 344 (K.B. 1805) (stranger abolitionist society obtained a writ of habeas corpus on behalf of an African woman), <https://bit.ly/3KIJsri>.

of the cases, the courts explicitly stated that NhRP had standing. *See Stanley*, 49 Misc.3d at 756 (“As [CPLR 7002(a)] places no restriction on who may bring a petition for habeas corpus on behalf of the person restrained, and absent any authority for the proposition that the statutory phrase ‘one acting on his behalf’ is modified by a requirement for obtaining standing by a third party, petitioner has met its burden of demonstrating that it has standing” on behalf of two chimpanzees.); *Breheny (Trial Court)*, 2020 WL 1670735 at *7 (“The NhRP has standing to file the Petition for habeas corpus on behalf of Happy.”).⁴⁷

IV. This Court must issue an order to show cause for the DeYoung Prisoners.

A. Michigan’s Common Law Habeas Corpus Procedural Framework

196. “The writ of *habeas corpus* is the most celebrated writ known to the law, and has been justly styled ‘the great writ of liberty.’” *Attorney Gen v. Daboll*, 90 Mich. 272, 276 (1892). Habeas corpus “is a writ of *inquiry*.” *Phillips v. Warden, State Prison of S. Michigan*, 153 Mich. App. 557, 564 (1986). “The primary, if not the only, object of a writ of habeas corpus is to determine the legality of the restraint.” *Id.* at 565. *See also Hinton v. Parole Bd.*, 148 Mich. App. 235, 244 (1986) (“A complaint for *habeas corpus* is designed to test the legality of detaining an individual and restraining him of his liberty.”).

⁴⁷ Two decisions of the Appellate Court of Connecticut erroneously held that 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.*, 192 Conn.App. 36, 41 (2019); *Nonhuman Rights Project, Inc. v R.W. Commerford & Sons, Inc.*, 197 Conn.App. 353, 360 (2020). These decisions were wrong for deciding the merits at the standing stage. *See generally Maloney v. Pac.*, 183 Conn. 313, 321 n.6 (1981) (“We emphasize that the question of standing is not an inquiry into the merits.”). In addition, these decisions are directly contrary to the binding Connecticut precedent in *Jackson v. Bulloch*, 12 Conn. 38 (1837), where Nancy Jackson, an enslaved woman who lacked legal personhood (and thus lacked standing in the first instance) was freed through habeas corpus.

197. The procedures applicable to the issuance of the common law writ of habeas corpus are set forth in M.C.L. §§ 600.4301 to 600.4379 and in MI Rules MCR 3.303.

198. These provisions are purely procedural and do not affect this Court’s common-law authority to determine the substantive scope of the writ. “It was never the case in England that the court of king’s bench derived its jurisdiction to issue and enforce this writ from the statute. Statutes were not passed to give the right, but to compel the observance of rights which existed.” *In re Jackson*, 15 Mich. 417, 436 (1867) (Cooley, J., concurring). “The writ is so ancient that its origin is lost in obscurity,” and even the famous Habeas Corpus Act of 1679, confined only to imprisonment for criminal or supposed criminal matters, “introduced no new principle” that was not present in the common law. *Id.*

199. While MCL 600.4322 uses the term “prisoner,” it is not limited to incarcerated human beings. Rather, it is broadly defined to mean “the person on whose behalf the writ is issued, *such as* an inmate of a penal or mental institution, the child whose custody is sought, and *other persons alleged to be restrained of their liberty.*” (emphasis added).

200. “The right to a writ of habeas corpus is fundamental to personal liberty. Its sources in the common law go back to the earliest struggles for freedom. . . . The privilege of habeas corpus was further developed from time to time and established the basic right of freedom from unlawful detention. The earliest colonists brought it to this country as a part of the common law, and it became, and ever since remained, the law of the land.” *Goetz*, 256 Mich. at 567.⁴⁸

⁴⁸ See also *In re Coffeen*, 38 Mich. 311, 311 (1878) (“This is a common law proceeding and does not come under the statute, which in certain cases makes the writ of habeas corpus a writ demandable of right”).

201. “As [habeas corpus] came from no statute, it is not confined in its scope to any prescribed limits, but is co-extensive with the cases to which its principles can be applied, and in which it can afford a remedy.” *In re Jackson*, 15 Mich. at 439 (Cooley, J., concurring).

202. Indeed, this Court’s authority over the substance and expansion of the writ is constitutionally guaranteed. “[S]tate constitutions recognize the writ of habeas corpus as an existing remedy in the cases to which it is properly applicable, and designate the courts or officers which may issue it; but they do not point out the cases in which it may be employed. Upon this subject the common law and the statutes must be our guide; and although the statutes will be found to make specific provision for particular cases, it is believed that in no instance which has fallen under our observation has there been any intention to restrict the remedy, and make it less broad and effectual than it was at the common law.” *People v. Collins*, 36 Mich. App. 400, 410 (1971) (Levin, J., concurring), *aff’d*, 388 Mich. 680 (1972) (citation omitted).

B. To issue an order to show cause, this Court need only assume without deciding that the DeYoung Prisoners could have the common law right to bodily liberty protected by habeas corpus.

203. At this preliminary stage (issuance of an order to show cause), this Court need only assume without deciding that the DeYoung Prisoners could have the common law right to bodily liberty protected by habeas corpus.⁴⁹

204. Writs of habeas corpus have long been issued for individuals whose right to bodily liberty was previously unrecognized. Against the long-entrenched background of legally sanctioned slavery, “the courts of England and the United States worked, through the Great Writ, to secure liberty for those deemed chattel, equated, at most, with animals.” *Breheny*, 38 N.Y.3d at

⁴⁹ As set forth in the Argument (*infra* § V.), ample common law precedent support this Court’s ultimate recognition of their right to bodily liberty.

592. This includes the landmark case of *Somerset v. Stewart*, 1 Lofft. 1 (K.B. 1772), where Lord Mansfield assumed (without deciding) that an enslaved Black man, James Somerset, could possess the common law right to bodily liberty protected by habeas corpus when he famously issued a writ requiring the respondent to justify Somerset’s detention—before ultimately granting Somerset his freedom. *Somerset* is part of Michigan law, Const. 1963, art. 3, § 7, and is celebrated as “that famous decision which will live, and justly so, as long as history does, as that particular glory of Lord Mansfield’s judicial diadem.” *Love v. Phalen*, 128 Mich. 545, 548 (1901).

205. Since *Somerset*, courts in free states including Michigan, California, and New York have issued writs of habeas corpus for enslaved individuals, despite being compelled by comity laws to ultimately rule against their freedom. *E.g.*, *In The Matter of Elizabeth Denison, et al.*, No. 60., 1807 WL 1109 at *1 (writ of habeas corpus issued for enslaved children to inquire into their detention, although relief was ultimately denied); *In re Perkins*, 2 Cal. 424, 429 (1852) (writ of habeas corpus issued for three enslaved Black men brought to California from out of state, although the California Supreme Court subsequently determined that they were not entitled to their freedom).⁵⁰

206. In *In re Kirk*, 1 Edm.Sel.Cas. 315, 332 (1846), the court recognized its duty to issue a writ of habeas corpus for an enslaved Black child imprisoned on a docked ship by a Georgia 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

⁵⁰ More abundant are cases where slaves were famously set free. *See Lemmon v. People*, 20 N.Y. 562 (1860); *Commonwealth v. Aves*, 35 Mass. 193 (1836); *Jackson v. Bulloch*, 12 Conn. 38 (1837); *Republica v. Blackmore*, 2 Yeates 234 (Pa. 1797).

becoming the gravity of the case, yet with a lively sense of what is due to personal liberty.” *Id.* at 335.

207. More recently, courts have issued writs of habeas corpus for nonhuman animals even when their right to bodily liberty was not recognized.

208. In 2015, the New York Supreme Court, New York County issued an historic habeas corpus order for two imprisoned chimpanzees, recognizing 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.” *Stanley*, 49 Misc.3d at 748.⁵¹ Before a packed courtroom with The New York Times and other media in attendance, Justice Jaffe asked the Assistant Attorney General of New York: “Isn’t it incumbent on the judiciary to at least consider whether a class of beings might be granted a right or something short of the right under the habeas corpus law?”⁵²

209. In 2018, an order to show cause was issued for the imprisoned elephant Happy.⁵³ Following a three-day hearing, the New York Supreme Court, Bronx County concluded that NhRP’s merits arguments were “extremely persuasive.” *Breheny (Trial Court)*, 2020 WL 1670735 at *10.

⁵¹ The court rejected the State of New York’s argument to the contrary as inappropriately “require[ing] an initial, substantive finding that chimpanzees are not entitled to legal personhood for the purpose of obtaining a writ of habeas corpus.” *Id.* at 760.

⁵² James C. McKinley Jr., *Arguing in Court Whether 2 Chimps Have the Right to ‘Bodily Liberty’*, N.Y. TIMES (May 27, 2015), <https://bit.ly/3umXQIO>. 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.”).

⁵³ 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/3EnKSVy>.

210. In 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.⁵⁴

C. The Complaint sets forth a prima facie case for the issuance of an order to show cause.

211. “Any court or judge empowered to grant the writ of habeas corpus shall, upon proper application, grant the preliminary writ (or an order to show cause) without delay, unless the party applying therefor is not entitled to the writ.” MCL 600.4316.

212. MCR 3.303 (C) provides that a habeas corpus complaint must state:

- (1) that the person on whose behalf the writ is applied for (the prisoner) is restrained of his or her liberty;
- (2) the name, if known, or the description of the prisoner;
- (3) the name, if known, or the description of the officer or person by whom the prisoner is restrained;
- (4) the place of restraint, if known;
- (5) that the action for habeas corpus by or on behalf of the prisoner is not prohibited;
- (6) the cause or pretense of the restraint, according to the plaintiff’s best knowledge and belief; and
- (7) why the restraint is illegal.

213. The Complaint complies with these pleading requirements as it states:

- (1) The DeYoung Prisoners are seven chimpanzees who are restrained of their liberty.
- (2) Prisoner A (aka Louie) is an approximately 13-year-old male chimpanzee; Prisoner B is an adult female chimpanzee who gave birth to Prisoner C, an

⁵⁴ *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], <https://bit.ly/3mkkSmy>.

approximately 6-year-old female chimpanzee; Prisoner D is an adult female chimpanzee; and Prisoners E-G are three adult male chimpanzees.

- (3) The DeYoung Prisoners are restrained of their liberty by Respondents De Young Family Zoo, LLC and Harold DeYoung.
- (4) The DeYoung Prisoners are restrained of their liberty at DFZ, which is located at N5406 Co Rd 577, Wallace, MI 49893.
- (5) This action for habeas corpus relief is not prohibited.⁵⁵
- (6) Based on NhRP's best knowledge and belief, the DeYoung Prisoners are restrained of their liberty for no criminal matter but solely because they are chimpanzees.
- (7) The restraint of the DeYoung Prisoners is illegal because it violates their common law right to bodily liberty protected by habeas corpus, specifically 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. As a result of this deprivation, they are suffering physically and psychologically. (*supra* § II.C-D).

214. This Court must accept the factual allegations in the Complaint as true and construe them in the light most favorable to NhRP.⁵⁶ In doing so, the Court must conclude that the Complaint establishes a *prima facie* case that the DeYoung Prisoners are being illegally restrained of their liberty. Accordingly, and as set forth in more detail in the following sections, this Court must issue an order to show cause for the DeYoung Prisoners without delay.⁵⁷

⁵⁵ MCL 600.4310 enumerates four categories of “persons” who may not file an action for habeas corpus which are inapplicable here. *See generally*, footnote 45, *supra*.

⁵⁶ A habeas complaint can only be summarily dismissed “if the party applying therefor is not entitled to the writ.” MCL 600.4316. This is analogous to the standard that courts use when evaluating a motion to dismiss for failure to state a claim under MCR 2.116 (C)(8), which “tests the legal sufficiency of a claim on the basis of the pleadings alone.” *Madejski v. Kotmar Ltd*, 246 Mich. App. 441, 444-43 (2001). “All well-pleaded facts are accepted as true and are construed in the light most favorable to the nonmoving party.” *Id.*

⁵⁷ “The writ or an order to show cause must be issued unless it appears that the prisoner is not entitled to relief. . . . Technical or formal defects in the complaint should not be seized upon to avoid the obligation of inquiring into the validity of the detention. In other words, the prisoner is entitled to more than a peremptory guess as to the validity of his or her detention; he or she is entitled to a judicial

215. Significantly, the two New York trial court judges who issued orders to show cause for elephants and chimpanzees implicitly found that the habeas corpus petitions made a prima facie case for relief, and judges on New York’s highest court went out of their way to explain why such petitions must, at a minimum, survive dismissal, in order to respect the history of the writ itself. In Happy’s case, Judge Wilson and Judge Rivera found that NhRP established a prima facie case that Happy was being illegally imprisoned at the Bronx Zoo. *See Breheny*, 38 N.Y.3d at 617 (Wilson, J., dissenting); *id.* at 628 (Rivera, J., dissenting). Accepting “the information Happy has submitted as true, and granting every possible reasonable inference in her favor,” *id.* at 618, Judge Wilson considered two crucial questions: (1) “‘what does the information submitted by the petitioner [Happy] tell us about the petitioner?’”; and (2) “‘what does the information submitted by the petitioner tell us about the confinement?’” *Id.* at 621-22 (Wilson, J., dissenting).

216. First, Judge Wilson found that “Happy and elephants like her ‘possesses complex cognitive abilities’ of a great number”:

Among those myriad qualities and abilities include “autonomy; empathy; self-awareness; self-determination; theory of mind (awareness that others have minds); insight; working memory; [and] an extensive long-term memory that allows them to accumulate social knowledge.” They are able to “act intentionally and in a goal-oriented manner,” “understand the physical competence and emotional state of others,” “engage in true teaching,” “cooperate and build coalitions,” engage in “cooperative” and “innovative problem-solving,” “understand causation,” and engage in “intentional communication.” They have “complex learning and categorization abilities,” and they understand death, practicing grieving behaviors that “are akin to human responses to the death of a close relative or friend” when they have lost a companion.

Id. at 618-19. Next, Judge Wilson evaluated the nature of Happy’s confinement, and found that it is “causing her deep physical and emotional suffering because it is so unnaturally different from

inquiry unless his or her own application forecloses any question.” *Issuance of the writ or order to show cause*, 4 Mich. Ct. Rules Prac., Text § 3303.5 (7th ed.).

conditions that meet the needs of elephants.” *Id.* at 620. Thus, he 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.” *Id.* at 626.

217. Judge Rivera concluded that NhRP “made the case for Happy’s release and transfer to an elephant sanctuary, and the writ should therefore be granted,” after relying on “submitted affidavits from several internationally renowned elephant experts to establish Happy’s autonomy and the inherent harm of her captivity in the Zoo.”⁵⁸ *Id.* at 634 (Rivera, J., dissenting). The expert evidence demonstrated: “Captivity is anathema to Happy because of her cognitive abilities and behavioral modalities—because she is an autonomous being. . . . 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.” *Id.* at 642.

218. Just like in Happy’s case, the Expert Affidavits and Declarations establish that the DeYoung Prisoners are autonomous beings with very substantial cognitive, emotional and social needs and abilities, as well as the inherent harm of their imprisonment. These indisputable facts compel the conclusion that the Complaint establishes a prima facie case that the DeYoung Prisoners’ imprisonment is illegal. As discussed in more detail below, their imprisonment is illegal because it violates Michigan common law.

1. The DeYoung Prisoners’ imprisonment is illegal under the common law.

⁵⁸ The trial court noted that NhRP “placed before the Court five deeply educated, independent, expert opinions . . . by some of the most prominent elephant scientists in the world. In great detail, these opinions carefully demonstrate that elephants are autonomous beings possessed of extraordinarily cognitively complex minds.” *Breheny (Trial Court)*, 2020 WL 1670735 at *6.

219. If the Court recognizes the DeYoung Prisoners’ right to bodily liberty, as it should as set forth below (*infra* § V.C-D), then it must conclude that their imprisonment at the zoo is illegal because it grossly restricts their autonomy. In *Donovan v. Guy*, 347 Mich. 457, 464 (1956), the Court explained in a case concerning false imprisonment: “‘it is only necessary for the plaintiff . . . to show that he *has been imprisoned or restrained of his liberty*. The presumption then arises that he was unlawfully imprisoned, and it is for the person who has committed the trespass to show that it was legally justified.’” (emphasis added).

220. This presumption of liberty (*in favorem libertatis*) lies at the heart of the right to bodily liberty and undergirds the most significant common law bodily liberty cases to date. In *Somerset*, Lord Mansfield announced that slavery is “so odious, that nothing can be suffered to support it” under the common law. 1 Lofft at 19.⁵⁹ Judge Cooley echoed Mansfield when he declared: “Slavery is the negation of natural right.” *People ex rel. Hedgman v. Bd. of Registration of Detroit, First Ward*, 26 Mich. 51, 54 (1872). And the presumption was the crux of *Botsford’s* esteemed refrain: “No right is held more sacred, or is more carefully guarded by the common law, than the right of every individual to the possession and control of his own person . . . *unless by clear and unquestionable authority of law*.” *Union Pac R Co v. Botsford*, 141 U.S. 250, 251 (1891) (emphasis added). Indeed, this presumption of liberty is subsumed in the habeas corpus procedural statute. MCL 600.4352 (1) provides: “*If no legal cause* is shown for the restraint, or for the continuation thereof, the court or judge shall discharge the person restrained from the restraint under which he is held.” (emphasis added).

⁵⁹ See also, e.g., *Whitford v. Panama R. Co.*, 23 N.Y. 465, 467-68 (1861) (“prima facie, a man is entitled to personal freedom, and the absence of bodily restraint . . .”); *Ex parte The Queen of the Bay*, 1 Cal. 157, 158 (1850) (“There appearing to be no cause for the detention of the ‘Queen of the Bay,’ and the ‘daughters of the chiefs,’ they are, consequently, discharged from the custody of Captain Snow.”).

221. The Expert Affidavits and Declarations establish that chimpanzees are autonomous, extraordinarily cognitively complex beings with complex physical, psychological, and social needs (*supra* § II.B). They are self-aware beings who can remember the past and plan for the future; engage in sophisticated communication, including sign language; shoulder duties and responsibilities; exhibit empathy, compassion, and other moral behaviors; and understand the finality of death. (Matsuzawa Decl. ¶ 20) (Boesch Decl. ¶¶ 17, 23) (Jensvold Aff. ¶ 13) (McGrew Decl. ¶ 29). In the wild, chimpanzees naturally lead a cognitively and socially rich stimulating life that requires them to engage in constant problem-solving, tool making, and tool use. (Jensvold Aff. ¶ 57). They form relationships that last a lifetime, living in complex fission-fusion societies with groups of 20-200 individuals (and fluid subgroups), and confront many challenges provided by a continually changing physical and social environment—including finding food and maintaining or improving their position in their community. (Jensvold Aff. ¶ 29) (Goodall Decl. ¶ 15).

222. The rich and complex life of chimpanzees in the wild is not possible in captivity. (McGrew Decl. ¶ 40). Chimpanzees in captive environments who are unable to exercise their autonomy can suffer severe physical and psychological harm, including stereotypical and abnormal behaviors, aberrant self-directed behaviors (such as self-manipulation, self-scratching, self-grasping, and self-injurious behavior), increased aggression, decreased exploration, low dominance rank, and reduced or abnormal sexual behaviors. (Jensvold Aff. ¶ 12). They also have shorter lives: in captivity, chimpanzees live for 45 years on average, while their wild counterparts may survive for more than 60 years. (Matsuzawa Decl. ¶ 29). In short, confining chimpanzees in non-species-specific living conditions is devastating to their physical and psychological well-being. (Boesch Decl. ¶ 14) (Matsuzawa ¶¶ 32-33).

223. The DeYoung Prisoners are unable to live a normal life appropriate for their species. (Matsuzawa Decl. ¶ 34). They should be able to enjoy lives as close as possible to their wild counterparts and have opportunities to engage in species-typical behaviors, which is not possible at a roadside zoo.⁶⁰ (Jensvold Aff. ¶¶ 80, 86). For instance, chimpanzees need access to fresh air and sunshine all year. (Jensvold Aff. ¶ 68) (Matsuzawa Decl. ¶¶ 31, 32). However, during the winter months, the DeYoung Prisoners do not have that option because there does not appear to be any protected outdoor space at DFZ. (Jensvold Aff. ¶¶ 68, 70). In Wallace, Michigan, the ground is frozen all winter and the average annual snowfall is 47 inches per year, which makes being outside untenable: chimpanzees can easily develop frostbite or hypothermia from exposure to extreme cold and snow. (Jensvold Aff. ¶ 70). This means the DeYoung Prisoners must remain inside for many months every year, which is physically and psychologically harmful. *Id.* at ¶ 68.

2. The DeYoung Prisoners are being illegally imprisoned regardless of the absence of any statutory violation.

224. The word “illegal” and “no legal cause” in Michigan’s habeas corpus procedural statute broadly encompasses *all* unlawful imprisonments, including those unjust as a matter of common law. The writ of habeas corpus is “the ‘easy, prompt and efficient remedy afforded *for all unlawful imprisonment.*’” *In re Jackson*, 15 Mich. at 440 (Cooley J., concurring) (quoting 2 Kent’s Com., 32). The Great Writ’s “history is inextricably intertwined with the growth of fundamental rights of personal liberty. For its function has been to provide a prompt and efficacious remedy *for*

⁶⁰ The only organization providing oversight over DFZ is the USDA, whose standards are minimal and wholly insufficient for meeting the complex needs of chimpanzees. (Jensvold Aff. ¶ 85). DFZ has no accreditation displayed on its website and does not meet the AZA standards for chimpanzee care, let alone the rigorous standards of a GFAS-accredited sanctuary. *Id.*

whatever society deems to be intolerable restraints.” Fay v. Noia, 372 U.S. 391, 401–02 (1963), *overruled in part on other grounds*, 433 U.S. 72 (1977) (emphasis added).⁶¹

225. In NhRP’s case on behalf of Happy, Judge Wilson understood that “[t]he question is not whether Happy’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.” *Breheny*, 38 N.Y.3d at 579 (Wilson, J., dissenting). “[T]he courts of England and the United States used the Great Writ to grant relief to women and children in the face of statutory and common law rendering their mistreatment by men lawful.” *Id.* at 597. For many women, “[t]he writ [of habeas corpus] acted as a lifeline for freedom’ ..., used to overcome their husbands’ common law right to restrain them.” *Id.* (citation omitted).

226. NhRP’s “core argument” in *Breheny*, as here, was that “Happy’s confinement at the Zoo was a violation of her right to bodily liberty as an autonomous being, regardless of the care she was receiving.” *Id.* at 637 (Rivera, J., dissenting). “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.” *Id.* at 642.

227. The Great Writ has long been available to safeguard the liberty of individuals with few or no rights. As Judge Wilson explained, the Great Writ’s history “demonstrates that courts have used and should use it to enhance liberty when a captivity is unjust, even when the captor has

⁶¹ “The very history of habeas corpus is one of providing a mechanism for challenging the status quo and litigating the meaning of fundamental liberty and autonomy rights.” Br. of *Amici Curiae* Habeas Corpus Experts 26 (Sept. 24, 2021), <https://bit.ly/3q4RsLN> (citing PAUL D. HALLIDAY, HABEAS CORPUS: FROM ENGLAND TO EMPIRE 133 (2010). See also *Peyton v. Rowe*, 391 U.S. 54, 66 (1968) (habeas 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”).

statutory or common law rights authorizing such captivities in general.” *Id.* at 580 (Wilson, J., dissenting). “[T]he writ was used to grant freedom to slaves, who were considered chattel with no legal rights or existence,” as well as to “grant freedom to wives and children, who, though not chattel, had few or no legal rights and legally were under the dominion of husbands and fathers.” *Id.* at 588-89. Centuries of “prior decisions . . . compel our acknowledgment of the availability of the writ to a nonhuman animal to challenge an alleged unjust confinement.” *Id.* at 629 (Rivera, J., dissenting).

228. Two seminal cases “show how the Great Writ was flexibly used by the courts as a tool for innovation and social change.” *Id.* at 592 (Wilson, J., dissenting). The first is *Somerset v. Stewart*, which “stands as an example of just how powerful the common law writ of habeas corpus could be, not only in protecting—but also expanding—liberty.” AMANDA L. TYLER, *HABEAS CORPUS: A VERY SHORT INTRODUCTION* 27 (2021). There, Mansfield ordered an enslaved Black man freed because “[t]he state of slavery is . . . so odious, that nothing can be suffered to support it” under the common law.⁶² 1 Lofft. at 19. The second case is the famous New York Court of Appeals decision in *Lemmon v. People*, 20 N.Y. 562 (1860). Relying on *Somerset*, the court affirmed a decision granting a habeas corpus petition brought on behalf of eight enslaved individuals, and ruled that “slavery is repugnant to natural justice and right.” *Id.* at 617.⁶³

⁶² 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). See also STEVEN M. WISE, *THOUGH THE HEAVENS MAY FALL: THE LANDMARK TRIAL THAT LED TO THE END OF HUMAN SLAVERY* 225 (Da Capo Press, Reprint ed. 2006) (“That black chattel slavery was so odious the common law would never support it was *Somerset’s* chief legacy. . . . *Somerset’s* principles have begun to radiate beyond humanity, as some lawyers are insisting today that at least the most cognitively complex nonhuman animals should no longer be treated as slaves.”).

⁶³ “Michigan never did tolerate slavery. Even before statehood, the Northwest Ordinance forbade slavery and it has been forbidden in every Michigan Constitution.” *Beech Grove*, 380 Mich. at 431.

3. The long history of habeas corpus powerfully supports issuing an order to show cause.

229. That habeas corpus has yet to be extended to a chimpanzee in Michigan only demonstrates that this case is novel, which does not render it without merit. As the Michigan Supreme Court observed when considering a novel case, “[t]he fact that no case remotely resembling the one at issue is uncovered does not paralyze the common-law system, which is endowed with judicial inventiveness to meet new situations.” *Beech Grove*, 380 Mich. at 429 (citation omitted); *see also Breheny*, 38 N.Y. at 629 (Rivera, J., dissenting) (“novel questions merely present opportunities to develop the law”).

230. Rather, in keeping with the history of habeas corpus, it should provide the Court with a reason to issue an order to show cause. “The very history of habeas corpus is one of providing a mechanism for challenging the status quo and litigating the meaning of fundamental liberty and autonomy rights.” Br. of *Amici Curiae* Habeas Corpus Experts 26 (Sept. 24, 2021), <https://bit.ly/3q4RsLN> (citing PAUL D. HALLIDAY, *HABEAS CORPUS: FROM ENGLAND TO EMPIRE* 133 (2010)).

231. “[A] novel habeas case freed an enslaved person; a novel habeas case removed a woman from the subjugation of her husband; a novel habeas case removed a child from her father’s presumptive dominion and transferred her to the custody of another.” *Breheny*, 38 N.Y.3d at 584 (Wilson, J., dissenting). “More broadly, novel common law cases—of which habeas is a subset—have advanced the law in countless areas.” *Id.*

232. In referring to “humans who were denied full rights under the law to demonstrate the flexibility of the historical uses of the writ,” we “do not undermine in any way the dignity of those individuals or diminish their struggles for equality and the right to live free.” *Id.* at 632 (Rivera, J., dissenting). Rather, the legal and moral point is that the “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.” *Id.* As Judge Rivera explained:

If an enslaved human being with no legal personhood, a Native American tribal leader whom the federal government argued could not be considered a person under law, a married woman who could be abused by her husband with impunity, a resident of Puerto Rico who is a United States citizen deprived of full rights because of Puerto Rico's colonial status, and an enemy combatant as defined by the federal government can all seek habeas corpus relief, so can an autonomous nonhuman animal.

Id. at 631 (citations omitted).

233. In sum, the Complaint presents a *prima facie* case that the DeYoung Prisoners are being illegally imprisoned, requiring the issuance of an order to show cause. Upon its issuance, the burden shifts to Respondents to justify the imprisonment of these strikingly autonomous and complex beings. MCR 3.303 (K)(2). If these prisoners are refused the opportunity for a full and fair hearing, they will be condemned to a lifetime of imprisonment and suffer certain destruction of their autonomy, caused by social isolation, intellectual, emotional, and social stunting, severe emotional distress, feelings of hopelessness, and more.

* * *

ARGUMENT FOR RECOGNIZING THE RIGHT TO BODILY LIBERTY

V. This Court must recognize the DeYoung Prisoners’ common law right to bodily liberty protected by habeas corpus.

A. The substantive question is not whether the DeYoung Prisoners are “persons” but whether they have the common law right to bodily liberty protected by habeas corpus.

234. While “person” is used in Michigan’s habeas corpus procedural statutes, it is undefined and is meant to have no substantive component. Formalistically asking whether chimpanzees fit the definition of “persons” evades the more fundamental question of whether they

have a liberty interest that habeas corpus must protect. This Court must properly frame the question presented commensurate with the weighty liberty interests at stake and base its decision in accordance with the fundamental principles of the common law.

235. As Judge Fahey recognized in *Tommy*, the proper question is a substantive one, not definitional: “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.” 31 N.Y.3d at 1058 (Fahey, J., concurring). *See also Breheny*, 38 N.Y.3d at 582 (Wilson, J., dissenting) (explaining that the undefined term “person” in New York’s similar habeas corpus procedural statute “was meant to have no substantive component,” and “is irrelevant to whether the writ can extend beyond humans”); *id.* at 633 (Rivera, J., dissenting) (“While CPLR article 70 sets forth the *procedure* to seek habeas relief, it does not create the right to bodily liberty nor determine who may seek such relief. . . . [I]t is for this Court to decide the contours of the writ based on the qualities of the entity held in captivity and the relief sought.”).

236. Accordingly, the focus of this Court’s inquiry (after issuance of an order to show cause) must be on whether the DeYoung Prisoners have the common law right to bodily liberty protected by habeas corpus, not whether they fit the definition of “person.”

237. As Judge Fahey explained, the 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. That question, one of 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.” *Tommy*, 31 N.Y.3d at 1057 (Fahey, J., concurring). And, in Happy’s case, Judge Wilson and Judge

Rivera understood that whether a nonhuman animal can employ the protections of habeas corpus is not a definitional question regarding the term “person.” *See Breheny*, 38 N.Y.3d at 582 (Wilson, J., dissenting); *id.* at 633 (Rivera, J., dissenting)

238. Once this Court recognizes that the DeYoung Prisoners have the right to bodily liberty, they are *necessarily* “persons” for purposes of habeas corpus because a “person” is merely the consequence of being a rightsholder: 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)).⁶⁴

239. As a theoretical matter, “[l]egal personality may be granted to entities other than individual human beings, e.g. a group of human beings, a fund, and idol.” GEORGE WHITECROSS PATON, A TEXTBOOK OF JURISPRUDENCE 351 (3d ed. 1964). There is even “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 39 (2d ed. 1963). The same is true for nonhuman animals: “[A]nimals may conceivably be legal persons. . . . [T]here may have been, or indeed, may still be, systems of Law in which animals have legal rights.” *Id.* at 42-43.

B. The common law right to bodily liberty protected by habeas corpus is not limited to human beings.

⁶⁴ *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.”); 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 ‘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.’”).

240. Habeas corpus “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.” *Breheny*, 38 N.Y.3d at 632 (Rivera, J., dissenting). “Indeed, if a corporation—a legal fiction created to benefit some humans—can have constitutional rights protected in our courts, then the law can recognize an autonomous animal's right to judicial consideration of their claim to be released from an unjust captivity.” *Id.* at 631.

241. As Michigan’s own Judge Thomas M. Cooley recognized, the common law right to bodily liberty is ““a right of *complete immunity*; to be let alone.”” *Botsford*, 141 U.S. at 251 (quoting Cooley, Torts, 29) (emphasis added)).⁶⁵ As with all immunity rights, this right imposes no duty on the rights-holder. As the Michigan Supreme Court explained in a recent case: “One way to think of a right is in terms of the correlative duty it imposes on another to act or refrain from acting for the benefit of the right-holder.” *Bauserman v. Unempl. Ins. Agency*, 509 Mich. 673, 691 (2022) (citing Wesley Newcomb Hohfeld, *Some Fundamental Legal Conceptions As Applied in Judicial Reasoning*, 23 *Yale L.J.* 16, 55 (1913)). Thus, because the right to bodily liberty imposes no duties on the rights holder, there is no reason to limit it to humans.

242. As elaborated in the next three sections, refusing to extend the common law right to bodily liberty protected by habeas corpus to the DeYoung Prisoners merely because they are not human would contravene this Court’s duty to evolve the common law in accordance with science, changing societal norms, and public policy, as well as the fundamental principles of justice, liberty, and equality.

C. This Court’s duty to upkeep the common law in view of science, justice, changing societal norms and public policy, requires recognition of the

⁶⁵ *Accord People v. Corder*, 224 Mich. 274, 287 (1928) (“As well said by Judge Cooley, ‘The right to one's person may be said to be a right of complete immunity; to be let alone.’”) (citation omitted).

DeYoung Prisoners' common law right to bodily liberty protected by habeas corpus.

243. Extensive common law jurisprudence places this Court under an obligation to extend the common law when change is required, as trade, commerce, inventions it is in this case. “The inherent capacity of the common law for growth and change is its most significant feature.” *Beech Grove*, 380 Mich. 405 at 429 (citation omitted). The common law “is a flexible body of principles which are designed to meet, and are susceptible of adaptation to, among other things, new institutions, public policies, conditions, usages and practices, and changes in mores,, and increasing knowledge, as the progress of society may require,” with the consequence that “changing conditions may give rise to new rights under the law.” *Id.* at 430.

244. “This Court has often recognized its authority, indeed its duty, to change the common law when change is required.” *People v. Stevenson*, 416 Mich. 383, 390 (1982) (citing cases). Michigan courts “have not hesitated to examine common-law doctrines in view of changes in society’s mores, institutions, and problems, and to alter those doctrines where necessary.” *Adkins v. Thomas Solvent Co.*, 440 Mich. 293, 317 (1992).

245. In deciding whether to recognize the DeYoung Prisoners’ common law right to bodily liberty protected by habeas corpus, this Court should consider: (1) **science**; *e.g.*, *People v. Guthrie*, 97 Mich. App. 226, 230-32 (1980) (medical advancements); *Womack v. Buchhorn*, 384 Mich. 718, 724 (1971) (court must update the common law to conform to “present day science [and] philosophy”); *Detroit City Ry. v. Mills*, 85 Mich. 634, 650 (1891) (common law updated in light of scientific advancements in transportation); (2) **justice**; *e.g.*, *Placek v. Sterling Heights*, 405 Mich. 638, 652 (1979) (“There is little dispute among legal commentators that the doctrine of contributory negligence has caused substantial injustice since it was first invoked in England in 1809”); (3) **changing societal norms and public policy**; *e.g.*, *Beech Grove*, 380 Mich. at 429;

Montgomery v. Stephan, 359 Mich. 33, 49 (1960) (harmonizing common law of consortium “with the conditions of modern society” pertaining to women).

246. Separately, each consideration weighs in favor of recognizing the right in this case, and collectively, they paint a powerful case for expanding the protections of habeas corpus to the DeYoung Prisoners and granting them their freedom. Judge Wilson understood the interrelatedness and significance of these considerations in Happy’s case. At its core, NhRP’s elephant case was about “whether society’s norms have evolved such that elephants like Happy should be able to file habeas petitions to challenge unjust confinements.” *Breheny*, 38 N.Y.3d at 588 (Wilson, J., dissenting). “Society’s determination as to whether elephants have a right to be free of oppressive confinement, which they may test through habeas corpus, is not likely to be the same today as it was 100 years ago.” *Id.* This is because “[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. The same is true here.

1. Science

247. Michigan common law must be updated in “light of the present state of science.” *Womack*, 384 Mich. at 725. *See also Guthrie*, 97 Mich. App. at 232 (updating the common law because “[m]odern medical practice has advanced to the point that, unlike the situation when the rule was first developed, the vast majority of viable fetuses will . . . be born alive”).

248. Sea changes in scientific understandings about chimpanzee autonomy in the past decades require this Court’s recognition of the DeYoung Prisoners’ common law right to bodily liberty protected by habeas corpus. Science regarding chimpanzee autonomy, intelligence,

emotional capacities, and their vast complex capabilities simply were not widely known or discovered until the past several decades. As Judge Wilson remarked: “Driving many of the changing social norms about wild animals is our vastly enhanced understanding of their cognitive abilities, needs and suffering when in captivity.” *Breheny*, 38 N.Y. at 606 (Wilson. J., dissenting).

249. It was long believed that nonhuman animals are unable to think, believe, remember, reason, and experience emotion. *See generally* RICHARD SORABJI, *ANIMAL MINDS & HUMAN MORALS: THE ORIGINS OF THE WESTERN DEBATE* 1-96 (1993). “Prior to the twentieth century, human understanding of animal intelligence was minimal,” with humans regarding “themselves as ‘unique in their sociality, individuality, and intelligence.’” *Breheny*, 38 N.Y.3d at 606 (Wilson, J., dissenting). The seventeenth-century philosopher René Descartes infamously posited that nonhuman animals were neither rational nor conscious creatures, but insentient beings incapable of suffering. *See generally id.* at 607 (citing Peter Harrison, *The Virtues of Animals in Seventeenth-Century Thought*, 59 J. OF THE HIST. OF IDEAS 463, 463 (1998)).

250. Scientific progress in the twentieth century “began to discredit the notion of human exceptionalism,” when “[s]cientists found that animals such as apes, dolphins and elephants—like humans—had substantial capacity to engage in and maintain social relationships, to learn and transpose information, to ‘appreciate the thoughts and feelings of other sentient beings, and engage in strategic behavior.’” *Id.* at 606-07.

251. As the Expert Affidavits and Declarations demonstrate, the “scientific work on chimpanzees over the past decades shows they are an especially sophisticated species, sharing a surprising number of psychological attributes with human beings,” and our scientific knowledge about them “is vast and has been increasing at an exponential rate.” (Boesch Decl. ¶¶ 12, 13).

252. Perhaps this Complaint “would have seemed ludicrous to Descartes, who saw animals as inanimate, insentient objects.” *Breheny*, 38 N.Y.3d at 607. But “[g]iven what we know today, it would be even more absurd to allow Descartes’s views” to factor in this case since human understanding of chimpanzee “cognition, social behavior, capabilities and needs demonstrates the absurdity of those ancient, uninformed views.” *Id.* at 609. *See also Tommy*, 31 N.Y.3d at 1058 (Fahey, J. concurring) (“chimpanzees demonstrate autonomy by self-initiating intentional, adequately informed actions, free of controlling influences”).

253. The time has come for Michigan common law to reflect the scientific understanding that chimpanzees are autonomous, extraordinarily cognitively complex beings who suffer physically and psychologically when deprived of their ability to exercise their autonomy.

2. Justice

254. The common law evolves to accord with the fundamental principle of justice. *E.g.*, *Womack*, 384 Mich. at 725 (“justice requires that the principle be recognized that a child has a legal right to begin life with a sound mind and body”) (citation omitted); *Placek*, 405 Mich. at 650 (changing the common law by discarding the doctrine of contributory negligence “in the interest of justice for all litigants in this state”).⁶⁶

255. Courts have “the duty to reexamine a question where justice demands it.” *Womack*, 384 Mich. at 724 (citation omitted). This Court’s “oath is to do justice, not to perpetuate error.” *Montgomery*, 359 Mich. at 38. After all, the common law is “the embodiment of principles

⁶⁶ *See also Pittman v. City of Taylor*, 398 Mich. 41, 50 (1976) (changing the common law by abrogating the common-law doctrine of state governmental immunity; “[w]e eliminate from the case law of Michigan an ancient rule inherited from the days of absolute monarchy which has been productive of great injustice in our courts”) (citation omitted); *Parker v. Port Huron Hosp.*, 361 Mich. 1, 25 (1960) (changing the common law by abolishing immunity exception for charitable eleemosynary organizations; “there is today no factual justification for immunity in a case such as this, and that principles of law, logic and intrinsic justice demand that the mantle of immunity be withdrawn.”).

and rules inspired by natural reason, an innate sense of justice, and the dictates of convenience.”
Garwols v. Bankers Trust Co., 251 Mich. 420, 423–24 (1930) (citation omitted).

256. Justice is “[t]he quality of being fair or reasonable.” JUSTICE, BLACK’S LAW DICTIONARY (11th ed. 2019). “[L]aw cannot be divorced from morality in so far as it clearly contains, as one of its elements, the notion of right to which the moral quality of justice corresponds.” *Id.* (quoting PAUL VINOGRADOFF, COMMON SENSE IN LAW 19-20 (H.G. Hanbury ed., 2d ed. 1946)). Indeed, “[t]he common law is but the accumulated expressions of the various judicial tribunals in their efforts to ascertain *what is right and just* between individuals in respect to private disputes.” *Bugbee v. Fowle*, 277 Mich. 485, 492 (1936) (citation omitted; emphasis added). *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.”).

257. In Happy’s case, Judge Wilson and Judge Rivera agreed that habeas corpus was available for an elephant to challenge her unjust confinement at a zoo. Judge Rivera described Happy’s “captivity [as] inherently unjust and inhumane,” for she is “held 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.” *Breheny*, 38 N.Y.3d at 642 (Rivera, J., dissenting). Judge Wilson explained that “the contrast between what we now know and the paucity of information in earlier times must inform our analysis. 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 (Wilson, J., dissenting).⁶⁷

258. More than a decade ago, a California court found that “Captivity 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.” *Leider v. Lewis*, Case No. BC375234 at 30 (L.A. Cnty. Sup. Ct. July 23, 2012), available at: <https://bit.ly/3KRQfln>. The injustice of the elephants’ imprisonment was clear as their life was “empty, purposeless, boring, and occasionally painful.” *Id.* at 45.

259. Our knowledge of chimpanzees compels the conclusion that the imprisonment of the DeYoung Prisoners is unjust. These are autonomous, self-determining beings forced to live in a wholly unnatural environment, one that deprives them of the ability to meaningfully exercise their autonomy. As a consequence of this unjust deprivation, they are suffering physically and psychologically (*supra* § II.C-D, ¶¶ 222-23).

3. Changing Societal Norms and Public Policy

260. Rigid assumptions of early “common law courts have yielded to the influence of social progress.” *Ward v. Fellers*, 3 Mich. 281, 287-88 (1854). “If judges have woefully misinterpreted the *mores* of their day, or if the *mores* of their day are no longer those of ours, they ought not to tie, in helpless submission, the hands of their successors.” *Van Dorpel v. Haven-Busch Co.*, 350 Mich. 135, 151 (1957) (citation omitted). In addition, the common law must grow

⁶⁷ The trial court also recognized “Happy’s plight,” and that she “is an extraordinary animal with complex cognitive abilities, an intelligent being with advanced analytic abilities akin to human beings.” *Brehey (Trial Court)*, 2020 WL 1670735 at *10. Although the trial court felt “[r]egrettably” bound by precedent to rule against Happy, *id.* at *9, it found the arguments that NhRP advanced for transferring her to an elephant sanctuary “extremely persuasive.” *Id.* at *10.

to “reflect the public policy of a given era,” *Beech Grove*, 380 Mich. at 429, which can be deduced from cases and statutes. *Id.* at 430-31.

261. “As we continue to learn more about the interrelated nature of all life, the day may come when humans perceive less separation between themselves and other living beings than the law now reflects. However, we 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 Or. 759, 769–70 (2014).

262. Whether the DeYoung Prisoners should be able to challenge their imprisonment through a writ of habeas corpus thus “arises within our country’s history of evolving norms and knowledge about animals,” and “[t]hose evolving norms and our deepening understanding about animals, along with legal developments that reflect them, provide the essential context for deciding this case.” *Breheny*, 38 N.Y.3d at 610.

263. *First*, societal norms towards exploiting and keeping autonomous nonhuman animals like chimpanzees in captivity have changed. In 2015, the National Institutes of Health (NIH) announced that it would no longer support biomedical research on chimpanzees, following its previous decision in 2013 to “significantly reduce the use of chimpanzees in agency-supported biomedical research.”⁶⁸ These decisions were due to the NIH’s recognition that chimpanzees possess the capacity for choice and self-determination. *See Announcement of Agency Decision: Recommendations on the Use of Chimpanzees in NIH-Supported Research* (June 26, 2013) available at: <https://bit.ly/46uDODC>, accepting recommendation which states: “The environmental enrichment program developed for chimpanzees must provide relevant

⁶⁸ *NIH Will No Longer Support Biomedical Research on Chimpanzees* (November 17, 2015), available at: <https://bit.ly/46kUopd>.

opportunities for choice and self-determination.” (emphasis added). There the NIH noted, “A large number of commenters who responded to this topic strongly supported this recommendation as a way to ensure both the complexity of the captive environment and chimpanzees’ ability to exercise volition with respect to activity, social groups, and other opportunities.”

264. Since NhRP began filing habeas corpus petitions on behalf of chimpanzees ten years ago, various judges of all levels have taken seriously our arguments to extend the protections of habeas corpus to members of other species, a resounding testament of the changing times. *E.g.*, *Stanley*, 49 Misc.3d at 772-73 (“Efforts to extend legal rights to chimpanzees are thus understandable; some day they may even succeed.”); *Tommy*, 31 N.Y.3d at 1056, 1059 (Fahey, J., concurring) (“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.”).

265. Happy’s case alone exemplifies the overwhelming support across diverse disciplines—academic, judicial, religious, and scientific communities—for extending the right to bodily liberty to at least some nonhuman animals. Following Judge Fahey’s trailblazing concurring opinion involving Tommy, the New York Court of Appeals in 2022 agreed to take up NhRP’s appeal on behalf of Happy. Writing in *The Atlantic*, Harvard historian Jill Lepore called Happy’s case “the most important animal-rights case of the 21st century.”⁶⁹

266. Eighteen amicus briefs signed by 146 distinguished scholars, lawyers, judges, and religious and moral leaders, were filed supported Happy’s freedom.⁷⁰ These included the world’s

⁶⁹ Jill Lepore, *The Elephant Who Could be a Person*, ATLANTIC (Nov. 16, 2021), <https://bit.ly/41lGlOg>.

⁷⁰ *Amicus Support* for the fight to #FreeHappy, NONHUMAN RIGHTS BLOG (Apr. 25, 2022), <https://bit.ly/3Mm5Z0U>. This prompted the *Breheny* majority to observe: “this case garnered extraordinary interest from amici curiae and the public—a testament to the complicated and ever-evolving relationship between human beings and other animals.” 38 N.Y.3d at 577.

most prominent philosophers⁷¹ (e.g., Peter Singer⁷² and Martha Nussbaum⁷³), civil rights pioneers⁷⁴ (e.g., Evan Wolfson and Shannon Minter⁷⁵), legal scholars (e.g., Laurence Tribe,⁷⁶ and legal academics from all over U.S., Canada,⁷⁷ and the UK⁷⁸), theologians (e.g., Buddhist scholars⁷⁹ and Catholic Theologians⁸⁰), and even former high court judges, including Retired South African Constitutional Court Judge Edwin Cameron.⁸¹ As Peter Singer remarked in his brief: “These circumstances place the Court in an enviable position. The major traditions in moral philosophy converge on the same judgment. It is unusual to find such convergence among ethics specialists.” *See also Tommy*, 31 N.Y.3d at 1058 (Fahey, J. concurring) (finding the amicus briefs persuasive on matters of science and policy: “[T]he 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”).

⁷¹ Br. of *Amici Curiae* Philosophers (Sept. 24, 2021), <https://bit.ly/3GO8GmH>.

⁷² Br. of *Amici Curiae* Peter Singer et al. (April 8, 2022), <https://bit.ly/3RcJb6p>.

⁷³ Br. of *Amicus Curiae* Martha C. Nussbaum (Aug. 20, 2021), <https://bit.ly/3bAQTRC>.

⁷⁴ Br. of *Amici Curiae* Habeas Corpus Experts (Sept. 24, 2021), <https://bit.ly/3q4RsLN>.

⁷⁵ Br. of *Amici Curiae* Shannon Minter and Evan Wolfson (April 7, 2022), <https://bit.ly/46xWEtG>.

⁷⁶ Br. of *Amici Curiae* Laurence H. Tribe et al. (Oct. 22, 2021), <https://bit.ly/3mOxJON>.

⁷⁷ Br. of *Amici Curiae* Law Professors (March 18, 2022), <https://bit.ly/3R6ZAJu>.

⁷⁸ Br. of *Amici Curiae* UK-Based Legal Academics (Oct. 8, 2021), <https://bit.ly/3q3LtXH>.

⁷⁹ Br. of *Amici Curiae* Buddhist Scholars (Oct. 7, 2021), <https://bit.ly/31ERznP>.

⁸⁰ Br. of *Amici Curiae* Catholic Theologians (Sept. 21, 2021), <https://bit.ly/41d6y2v>.

⁸¹ Br. of *Amicus Curiae* Edwin Cameron (Oct. 21, 2021), <https://bit.ly/3BFkmEE>.

267. *Second*, how society views nonhuman animals is reflected in the public policy expressed in state and local legislation. “Statutes and other legislative judgments may themselves be a source of common law.” *Moning v. Alfano*, 400 Mich. 425, 453 (1977). In applying public policy to its common law analysis, this Court may consider tangentially related legislation, as “legislative establishment of policy carries significance beyond the particular scope of each of the statutes involved.” *Id.* (citation omitted).

268. Relevant to the case at bar, Michigan law expressly provides that a trust may be created for a “designated domestic or pet animal.” MCL 700.2722(2).⁸² *See also* MCL 700.2722(3) (“a trust for the care of a designated domestic or pet animal is valid”). That Michigan law allows nonhuman animals to inherit property—a right once denied to women at common law who were chattel of their husbands⁸³—is a strong reflection of public policy regarding the changed legal status of nonhuman animals.⁸⁴ Indeed, “all fifty states and the District of Columbia now have ‘pet trust’ laws on their books, which enable guardians to create legally enforceable arrangements for the care of their animal companions.” Pamela Frasc, Joyce Tischler, *Animal Law: The Next Generation*, 25 *Animal L.* 303, 316 (2019).

⁸² Senator William Van Regenmorter introduced Senate Bill 209 on February 19, 1997, and it passed the Michigan State Senate with a vote of thirty-seven yeas and one nay, and unanimously passed the House on September 24, 1998. J. of the Senate, No. 12 at 128 (Feb. 19, 1997) (Mich.); J. of the House No. 74 (Sept. 24, 1998) (Mich.).

⁸³ *See N. Ottawa Community Hosp. v. Kieft*, 457 Mich. 394, 408 (1998) (“the contemporary reality of women owning property, working outside the home, and otherwise contributing to their own economic support calls for the abrogation of this sex-discriminatory doctrine from early common law”) (citation omitted).

⁸⁴ 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). A “beneficiary” is “[a] person to whom another is in a fiduciary relation, . . . esp., a person for whose benefit property is held in trust.” *Beneficiary*, BLACK’S LAW DICTIONARY (11th ed. 2019).

269. Inspired by Happy's case, in late September 2023, the Ojai City Council, in Ojai, California, passed a historic ordinance recognizing the right to bodily liberty for elephants.⁸⁵

270. *Third*, changing societal norms have led courts in other countries to recognize the rights of some nonhuman animals.

- In 2014, the Supreme Court of India held that all nonhuman animals possess certain constitutional and statutory rights.⁸⁶
- In 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.⁸⁷
- 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.⁸⁸ That decision was subsequently nullified on due process grounds and the nullification was confirmed by the Colombian Constitutional Court in a 7-2 decision.⁸⁹ 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.”⁹⁰ An official court announcement regarding the Tutela Action indicated that

⁸⁵ Brad Matthews, *Southern California city grants elephants the right to freedom, first in the nation*, THE WASH. TIMES (Sept. 28, 2023), <https://bit.ly/3RGDk9x>.

⁸⁶ *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>.

⁸⁷ *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>.

⁸⁸ *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>.

⁸⁹ *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> (“Tutela Action”).

⁹⁰ *Id.* at ¶¶ 117, 118 (Fajardo, J., dissenting). Magistrate Fajardo cited 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).

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.”⁹¹

- In 2018, the Islamabad High Court ordered the release of an elephant named Kaavan from the Marghazar Zoo to an elephant sanctuary after finding that Kaavan had been subjected to “unimaginable pain and suffering for the past three decades.”⁹² The court recognized the “exceptional abilities” of elephants and that the “needs of this innocent creation cannot be met in the captive environment of a zoo.”⁹³
- In 2022, Ecuador’s highest court—the Constitutional Court—decided an appeal from the denial of a writ of habeas corpus for a choro monkey named Estrellita.⁹⁴ 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.⁹⁵

⁹¹ *Report No. 03*, SU016/20 at 7 (Constitutional Court of Colombia, Jan. 23, 2020) [English Translation], available at: <https://bit.ly/3GZgocT>.

⁹² *Islamabad Wildlife Mgmt. Bd. v. Metropolitan Corp. Islamabad*, W.P. No. 1155/2019 at 62 (H.C. Islamabad, Pakistan May 21, 2020), available at: <https://bit.ly/3tXu4zT>.

⁹³ *Id.* at 12-13.

⁹⁴ 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>. 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 ¶ 9 (Dec. 22, 2020) [English translation], available at: <https://bit.ly/3LYoMf8>.

⁹⁵ *Id.* at ¶ 173, p. 53. The Constitutional Court relied upon a joint amicus brief submitted by 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

271. In sum, science, changing societal norms and public policy, and the sheer manifest injustice of the DeYoung Prisoners' imprisonment, compel the recognition of their common law right to bodily liberty protected by habeas corpus. As discussed below, two substantive common law concepts, liberty and equality, further require recognition of their right.

D. As a matter of liberty, this Court must recognize the DeYoung Prisoners' common law right to bodily liberty protected by habeas corpus because they are autonomous, extraordinarily cognitively complex beings.

272. This Court has a duty to protect the autonomy interest at the heart of the right to bodily liberty: “*No right* is held more sacred, or is *more carefully guarded by the common law*, than the right of every individual to the possession and control of his own person, free from all restraint or interference of others, unless by clear and unquestionable authority of law.” *People v. Nixon*, 42 Mich. App. 332, 340 n.17 (1972) (quoting *Union Pac R Co v. Botsford*, 141 U.S. 250, 251 (1891)) (emphasis added).

273. Michigan courts have been a pioneer in protecting autonomy. The Michigan Supreme Court recognized as early as 1881 that the right to exercise one's autonomy is a highly valued right. *See, e.g., Advisory Opinion 1975 P.A. 227*, 396 Mich. 465, 504 (1976) (citing *DeMay v. Roberts*, 46 Mich. 160 (1881)).⁹⁶

274. Autonomy is a supreme common law value that can trump even the State's interest in life itself. In Michigan, the protection given to one's autonomy under the common law is of such supreme importance that an individual, whether competent or incompetent, may choose to reject

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>.

⁹⁶ *See Nixon*, 42 Mich. App. at 340 n. 17 (“There can be no question as to the right of a woman to possess and control her body as she sees fit, in the absence of an expressed compelling state interest.”); *id.* at 339 (holding that because advances in medicine had dramatically reduced the danger of abortion, the blanket denial of a woman's right to obtain an abortion was no longer justified).

lifesaving medical treatment and die. *See In re Rosebush*, 195 Mich. App. 675, 680 (1992) (“We hold that, in Michigan, there is a right to withhold or withdraw life-sustaining medical treatment as an aspect of the common-law doctrine of informed consent.”). *See also In re Martin*, 450 Mich. 204, 215 n.8 (1995) (regarding “a patient’s prerogative to spurn life-preserving treatment,” “the object remains to honor individual dignity by promoting self-determination and choice”). Significantly, “[t]he right to refuse lifesaving medical treatment is not lost because of the incompetence or the youth of the patient,” *In re Rosebush*, 195 Mich. App. at 681-82, because the right can be “discharged by a surrogate decisionmaker.” *In re Martin*, 450 Mich. at 219 (“conclud[ing] that a person’s right to refuse life-sustaining medical treatment survives incompetency”).⁹⁷

275. The common law right to bodily liberty protects the right of autonomous individuals to exercise their autonomy. *See Breheny*, 38 N.Y.3d at 629 (Rivera, J., dissenting) (Any “autonomous being, regardless of species,” may invoke habeas corpus to “challenge an unjust denial of freedom.”); *Stanley*, 49 Misc.3d at 753 (“The great writ of habeas corpus lies at the heart of our liberty, and is deeply rooted in our cherished ideas of individual autonomy and free choice.”) (internal citations and quotations omitted).

276. Judge Fahey understood the importance of autonomy to the question of whether a chimpanzee “has the right to liberty protected by habeas corpus,” the recognition of which depends on “our assessment of the intrinsic nature of chimpanzees as a species.” *Tommy*, 31 N.Y.3d at 1057

⁹⁷ In *In re Martin*, the Michigan Supreme Court granted leave to consider “whether life-sustaining treatment . . . should be removed from a conscious patient who is not terminally ill or in a persistent vegetative state.” 450 Mich. at 207. Having recognized the right to refuse life-sustaining treatment as enunciated in *In re Rosebush*, *id.* at 218, the Court sought to establish a standard for “address[ing] how the surrogate effectuates the incompetent patient’s decision” in deciding whether to decline lifesaving treatment. 450 Mich. at 218.

(Fahey, J. concurring). Both Judge Wilson and Judge Rivera also understood the importance of autonomy to an elephant's right to petition for her liberty. *See Breheny*, 38 N.Y.3d at 619 (Wilson, J., dissenting) ("Happy has a level of autonomy, intelligence and understanding that could make suffering particularly acute."); *id.* at 634 (Rivera, J., dissenting) (writ of habeas corpus should be granted, as NhRP's "submitted affidavits from several internationally renowned elephant experts [established] Happy's autonomy and the inherent harm of her captivity in the Zoo").

277. Assessing the intrinsic nature of chimpanzees requires looking at the scientific evidence. In undertaking that analysis, Judge Fahey observed:

The record before us in the motion for leave to appeal contains un rebutted 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. Moreover, . . . chimpanzees demonstrate autonomy by self-initiating intentional, adequately informed actions, free of controlling influences.

Tommy, 31 N.Y.3d at 1057-58 (citations omitted). Based on this evidence, Judge Fahey recognized that chimpanzees are "autonomous, intelligent creatures." *Id.* at 1059.

278. The expert evidence in this case is even more extensive since Judge Fahey's observations (*supra* § II.B), and is continuing to grow. "[W]hat we know now is still only a small fraction of what chimpanzees are capable of." (Boesch Decl. ¶ 13). As demonstrated by the Expert Affidavits and Declarations, chimpanzees are capable of making complex decisions, including decisions relevant to habeas corpus: they can choose what they want to do, where they wish to go,

and when, and with whom. Remarkably, there is evidence of one chimpanzee, Bruno, who used American Sign Language to literally ask for his freedom.⁹⁸ (Jensvold Aff. ¶ 16).

279. Accordingly, this Court must either protect the autonomy of the DeYoung Prisoners by recognizing their right to bodily liberty, a right not contingent on being human, or reject the importance of autonomy, thus violating the Court's most sacred duty to protect this supreme Michigan value.

E. As a matter of equality, this Court must recognize the DeYoung Prisoners' common law right to bodily liberty protected by habeas corpus because they are autonomous, extraordinarily cognitively complex beings.

1. This Court has a duty to update the common law in light of equality.

280. To fulfill the common law's longstanding promise of equality, "[c]hanging times demand reexamination of seemingly unchangeable legal dogma." *N. Ottawa Community Hosp. v. Kieft*, 457 Mich. 394, 402 (1998) (citation omitted); *id.* at 408 (holding that "the contemporary reality of women owning property, working outside the home, and otherwise contributing to their own economic support calls for the abrogation of this sex-discriminatory doctrine from early common law").

281. Equality is deeply woven into the fabric of the common law. *See, e.g., Heurtebise v. Reliable Bus. Computers*, 452 Mich. 405, 422-23 (1996); *Sullivan v. Minneapolis & R. R. Ry. Co.*, 121 Minn. 488, 492 (1913) ("the general principle of equality is a principle of the common law") (citation omitted); *Simrall v. City of Covington*, 14 S.W. 369, 370 (Ky. 1890) ("Perhaps the most distinguishing feature of the common law is its regard for the protection and equality of

⁹⁸ Bruno had learned ASL as a child. When Dr. Jenvold's colleague, Mark Bodamer, met Bruno, the chimpanzee had been imprisoned in a laboratory for 16 years. Bodamer asked Bruno his name in ASL; Bruno replied KEY OUT. *See* BODAMER, M. (2020). KEY OUT: A CHIMPANZEE'S PETITION FOR FREEDOM. *in* D. Rosenman (Ed.). *The Chimpanzee Chronicles* (pp. 217-34).

individual right.”); *James v. Commonwealth*, 12 Serg. & Rawle 220, 230 (Pa. 1825) (“the common law . . . stamps freedom and equality upon all who are subject to it”). Indeed, “[o]ur whole system of law is predicated on the general fundamental principle of equality of application of the law.” *Truax v. Corrigan*, 257 U.S. 312, 332 (1921).⁹⁹

282. Michigan courts made the state a champion in equality under its common law by requiring relevantly similar individuals to be treated equally and prohibiting arbitrary and unjust discrimination, independent from constitutional equality. *See generally Anderson v. Chicago, M. & S. P. R. Co.*, 208 Mich. 424, 429 (1919) (statute prohibiting such discrimination is “declaratory of the common law”); *Bradford v. Citizens’ Tel. Co.*, 161 Mich. 385, 389 (1910) (telephone company guilty of discrimination under statute that was merely “declaratory of the common law”); *Ferguson v. Gies*, 82 Mich. 358, 365 (1890) (race discrimination prohibited under common law). “*Ferguson* began to establish that, in Michigan, whenever a particular equal protection right is recognized, whether by constitution, statute, or common law, then fused to that right is the right to pursue judicial relief.” *Heurtebise*, 452 Mich. at 422-23 (emphasis added)

283. Notably, the *Ferguson* Court rejected the “separate but equal” theory six years before the United States Supreme Court adopted it in *Plessy v. Ferguson*, 163 U.S. 537 (1896). *See*

⁹⁹ *See also Loving v. Virginia*, 388 U.S. 1, 11 (1967) (our “institutions are founded upon the doctrine of equality”) (citation omitted); *Crego v. Coleman*, 463 Mich. 248, 258 (2000) (“The Equal Protection Clauses of the United States Constitution and the Michigan Constitution provide that no person shall be denied the equal protection of the law. . . . The essence of the Equal Protection Clauses is that the government not treat persons differently on account of certain, largely innate, characteristics that do not justify disparate treatment.”); MI CONST Art. 1, § 2 (“nor shall any person be denied the enjoyment of his civil or political rights or be discriminated against in the exercise thereof because of religion, race, color or national origin”). While the instant habeas corpus litigation does not seek the recognition of a constitutional right or require constitutional interpretation, “constitutional values — especially the values so meticulously set out in our lengthy state chargers — . . . 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.

also *Beech Grove*, 380 Mich. at 436 (recognizing “a civil right to private housing both at common law and under the 1963 Michigan Constitution” based on the equality principle that “a member of the public is entitled to the same treatment and consideration as anyone else—no better, but no worse”).

284. Likewise, in *Montgomery*, the Court held that a wife may maintain an action for loss of consortium, rejecting inequitable precedents “from the dusty books” that allow husbands to recover for such loss while denying the same right to wives. 359 Mich. at 38. The Court determined that the inequality inherent in those precedents was “out of harmony with the conditions of modern society,” and “do violence to our convictions and our principles.” *Id.* at 49. “Decision founded upon the assumption of a bygone inequality are unrelated to present-day realities, and ought not to be permitted to prescribe a rule of life.” *Id.* at 41.¹⁰⁰

285. As evident from *Ferguson* and *Montgomery*, an equality analysis has two components. It has (1) 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, as well as (2) a noncomparative component, in which one’s entitlement to a right is determined by making a normative judgment. The comparative component—which requires like cases to be treated alike—is violated when relevantly similar individuals are treated in dissimilar ways, while the

¹⁰⁰ Courts in other states have also evolved their common law to accord with the foundational equality principle that like cases must be treated alike. *See, e.g., Benavidez v. Sierra Blanca Motors*, 122 N.M. 209, 214 (1996) (“[O]ne of the most basic principles of the common law” is that “like cases will be treated alike.”); *Enright by Enright v. Eli Lilly & Co.*, 77 N.Y.2d 377, 388 (1991) (It is a “fundamental principle of justice” under the common law that “like cases should be treated alike”); *De Ayala v. Florida Farm Bureau Cas. Ins. Co.*, 543 So. 2d 204, 206 (Fla.1989) (“Under . . . our common law heritage, all similarly situated persons are equal before the law.”); *Millington v. S.E. Elevator Co.*, 22 N.Y.2d 498 (1968) (overruling prior precedent to acknowledge “the equal right of the wife to damages as a result of her loss of consortium”); *Klein v. Klein*, 376 P.2d 70 (Cal. 1962) (abrogating spousal immunity for negligent torts).

noncomparative component—which forbids unjust discrimination—is violated when the treatment lacks a legitimate or just reason. *See also Landon Holdings, Inc. v. Grattan Twp.*, 257 Mich. App. 154, 176 (2003) (“The essence of an equal protection claim is discrimination based on characteristics not justifying different treatment.”).

286. Applying the fundamental principles of equality to the case at bar requires the recognition of the DeYoung Prisoners’ common law right to bodily liberty protected by habeas corpus. This is because (1) the chimpanzees are relevantly similar to humans for purposes of habeas corpus, and (2) their imprisonment lacks a legitimate or just reason for it is based solely on their species membership.

2. The DeYoung Prisoners and humans are relevantly similar for purposes of habeas corpus.

287. At its core, equality requires equal treatment of individuals who are relevantly similar. Three judges on New York’s highest court understood that autonomous nonhuman animals are relevantly similar to humans for purposes of habeas corpus. Judge Wilson and Judge Rivera recognized the right of autonomous beings like elephants to seek relief pursuant to habeas corpus. Judge Wilson rejected the notion that “the writ must be limited to humans, no matter how sophisticated, intelligent, self-aware or capable of suffering an elephant is and no matter how severe the conditions of its confinement are.” *Breheny*, 38 N.Y.3d at 580 (Wilson, J., dissenting) (citation omitted). Judge Rivera similarly concluded: “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.” *Id.* at 628-29 (Rivera, J., dissenting).

288. Judge Fahey explained that “in elevating our species, we should not lower the status of other highly intelligent species.” *Tommy*, 31 N.Y.3d at 1057 (Fahey, J., concurring). Suggesting

that chimpanzees may have the right to liberty protected by habeas corpus, Judge Fahey emphasized the fact that they are “autonomous, intelligent creatures.” *Id.* at 1059. They 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.” *Id.*

289. The Expert Affidavits and Declarations also demonstrate that chimpanzees are relevantly similar to humans for purposes of habeas corpus. Specifically, they show that chimpanzees are autonomous, extraordinarily cognitively complex beings, capable of a wide variety of sophisticated cognitive abilities, including complex decision-making, and suffer immensely when unjustly confined (*supra* § II.A-C). They can even shoulder duties and responsibilities, understand numbers as a sequence of quantities, exhibit empathy and compassion, and perform certain memory tests better than humans. They can recall their past and anticipate their future, and when their future is imprisonment, they suffer from the pain of being unable to act freely, much in the same way as humans.

290. Just as Judge Wilson, Judge Rivera, and Judge Fahey recognized in regards to elephants and chimpanzees, the science dictates that this Court must recognize that the DeYoung Prisoners are relevantly similar to humans for purposes of habeas corpus. Accordingly, it is this Court’s duty to evolve the common law and recognize that these chimpanzees have the common law right to bodily liberty protected by habeas corpus.

3. The DeYoung Prisoners’ imprisonment lacks a legitimate or just reason.

291. Distinctions between relevantly similar individuals based upon irrelevant characteristics are illegitimate and unjust. In Michigan, courts have evolved the common law by rejecting distinctions between relevantly similar individuals that were based upon irrelevant

characteristics.¹⁰¹ This was powerfully illustrated over a hundred years ago by the Michigan Supreme Court in *Ferguson*.

292. In *Ferguson*, the plaintiff was denied service at a restaurant “for no other reason than that Ferguson was a colored man.” 82 Mich. at 360. The restaurant owner prevailed at trial on the theory that Ferguson was not denied “full and equal accommodations,” since the defendant was willing to serve Ferguson had he sat in the area reserved for Black customers. *Id.* at 361. In reversing, the Michigan Supreme Court empathically declared: “there must be and is an absolute, unconditional equality of white and colored men before the law.” *Id.* at 363. The Court stressed: “Any discrimination founded upon race or color of the citizen is unjust and cruel, and can have no sanction in the law of this state.” *Id.* at 365. The Court rejected defendant’s argument that Ferguson had no private right of action, holding that under the common law, he had a “right of action for any injuries arising from an unjust discrimination against him . . . just as perfect and sacred in the courts as that of any other citizen.” *Id.*

293. Similarly, in *Romer v. Evans*, 517 U.S. 620, 633 (1996), 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.” There was no legitimate or just reason for distinguishing between individuals based upon sexual orientation: “Amendment 2 classifie[d] homosexuals not to further a proper legislative end but to make them unequal to everyone else.” *Id.* at 635. *See also Equality Found. v. City of Cincinnati*, 128 F.3d 289, 297 (6th Cir. 1997) (noting that *Romer* found

¹⁰¹ *See also James v. Marinship Corp.*, 155 P.2d 329, 339 (Cal. 1944) (finding that a labor union’s “discriminatory practices” treated qualified Black workers unequally solely upon the irrelevant characteristic of race).

Amendment 2 “so obviously and fundamentally inequitable, arbitrary, and oppressive that it literally violated basic equal protection values”).¹⁰²

294. Just as distinctions based upon irrelevant characteristics such as sexual orientation and race are illegitimate and unjust, as *Romer* and *Ferguson* made clear, so too are distinctions based upon species membership. This Court must choose the position that harmonizes best with the most essential values and principles embraced by Michigan courts. The position that only species membership matters for the right to bodily liberty protected by habeas corpus not only deeply conflicts with the importance of protecting an individual’s autonomy under the common law (*supra* § V.D), but also perpetuates an unjust discrimination.

295. As three judges on New York’s highest court made clear, there is no rational, non-arbitrary reason to limit the Great Writ’s protections to humans.

296. Judge Fahey recognized that given the autonomous nature of chimpanzees, it is illegitimate and unjust to deny them the right to bodily liberty protected by habeas corpus simply because they are not human. He 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). “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.”

¹⁰² *Cf. Buck v. Davis*, 580 U.S. 100, 123 (2017) (“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.”); *United States v. Windsor*, 570 U.S. 744, 770 (2013) (The Constitution’s guarantee of equality ‘must at the very least mean that a bare congressional desire to harm a politically unpopular group cannot’ justify disparate treatment of that group.) (citation omitted).

Id. at 1058. “Instead, we should consider whether a chimpanzee is an individual with inherent value who has the right to be treated with respect.” *Id.*

297. Judge Wilson and Judge Rivera agreed that given the autonomous nature of elephants, it was illegitimate and unjust to deny Happy the right to bodily liberty protected by habeas corpus simply because she is not human. Judge Wilson understood the crucial question in Happy’s case was “whether the detention of an elephant can ever be so cruel, so antithetical to the essence of an elephant, that the writ of habeas corpus should be made available under the common law.” *Breheny*, 38 N.Y.3d at 579 (Wilson, J., dissenting). The answer should not depend on the irrelevant fact that an elephant is not a member of the human species. To illustrate this point, Judge Wilson quoted English philosopher, jurist, and social reformer Jeremy Bentham:

The day *may* come, when the rest of the animal creation may acquire those rights which never could have been withholden from them but by the hand of tyranny. . . . It may come one day to be recognised, that the number of legs, the villosity of the skin, or the termination of the *os sacrum*, are reasons equally insufficient for abandoning a sensitive being to the same fate. What else is it that should trace the insuperable line? . . . [T]he question is not, Can they *reason*? nor, Can they *talk*?, but *Can they suffer*?

Id. at 578-79 (quoting JEREMY BENTHAM, AN INTRODUCTION TO THE PRINCIPLES OF MORALS AND LEGISLATION 311 n.1 (1781)). The contrary position—held by the *Breheny* majority, and likely by the Respondents here—that autonomous beings like chimpanzees cannot have fundamental liberty rights simply because they are not human, despite their great suffering in captivity, embraces blatant species bias to justify an unjust discrimination.¹⁰³ It “denies and denigrates the human capacity for understanding, empathy and compassion.” *Id.* at 626.

¹⁰³ This bias is called “speciesism.” PETER SINGER, ANIMAL LIBERATION: THE DEFINITIVE CLASSIC OF THE ANIMAL MOVEMENT 6 (2009), <https://bit.ly/3JPxbCo> (“Speciesism . . . is a prejudice or attitude of bias in favor of the interests of members of one’s own species and against those of members of other species.”); *see also* *Speciesism*, ANIMAL ETHICS, <https://www.animal-ethics.org/speciesism/> (last visited Mar. 31, 2023) (“Speciesism is a form of discrimination. Discrimination occurs when someone is given less moral consideration than others or treated worse for an unjustified reason.”). *See also*

298. Judge Rivera also criticized the *Breheny* majority's position as arbitrary and irrational, noting the "incoherence of its circular logic":

The majority's argument boils down to a claim that animals do not have the right to seek habeas corpus because they are not human beings and that human beings have such a right because they are not animals. But, of course, humans are animals. And glaringly absent is any explanation of why some kinds of animals—i.e., humans—may seek habeas relief, while others—e.g., elephants—may not. The majority's suggestion that the "fundamental liberty rights" of human beings are "recognized by law" is nothing more than a tautological evasion. Whether autonomous, nonhuman animals have rights that ought to be "recognized by law" is *precisely* the question we are called upon to answer in this appeal.

Id. at 632-33 (Rivera, J., dissenting). Looking beyond Happy's biological classification, Judge Rivera understood that "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 629.

299. Accordingly, it would be illegitimate and unjust to deny the DeYoung Prisoners the common law right to bodily liberty protected by habeas corpus simply because they are not human. Since the imprisonment of the DeYoung Prisoners lacks a legitimate or just reason—for it is based solely upon the irrelevant characteristic of their species membership—this Court should not permit an unjust discrimination to stand.

300. To dismiss the petition would not only be wrong, it would anchor rights to a bygone era. "If rights were defined by who exercised them in the past, then received practices could serve as their own continued justification and new groups could not invoke rights once denied." *Obergefell v. Hodges*, 576 U.S. 644, 671 (2015). "At one time aliens could not enjoy the same rights and privileges in property as citizens of Michigan. The disabilities of coverture also existed."

KRISTIN ANDREWS ET AL., CHIMPANZEE RIGHTS: THE PHILOSOPHERS' BRIEF 34 (2019) ("[I]t is arbitrary to utilize species membership alone as a condition of personhood, and it fails to satisfy the basic requirement of justice that we treat like cases alike. It picks out a single characteristic as one that confers rights without providing any reason for thinking it has any relevance to rights.").

Beech Grove, 380 Mich. at 431. Any such argument misperceives the “inherent capacity of the common law for growth and change.” *Id.* at 429 (citation omitted).

F. This Court must not deflect its duty to recognize the DeYoung Prisoners’ common law right to bodily liberty protected by habeas corpus onto the legislature.

301. Michigan courts have long rejected the “timeworn, threadbare argument” that changing archaic common law should be left to the legislature. *Weeks v. Slavick Builders, Inc.*, 24 Mich. App. 621, 627 (1970) (citation omitted). *See, e.g., Womack*, 384 Mich. at 725 (expanding the common law by allowing negligence actions for negligently inflicted prenatal injury); *Montgomery*, 359 Mich. at 38 (expanding the common law by allowing wives to maintain an action for loss of consortium); *Daley v. LaCroix*, 384 Mich. 4, 12-13 (1970) (expanding the common law by allowing claims for emotional distress caused by negligent conduct in the absence of any physical impact at the time of the mental shock).¹⁰⁴

302. There is absolutely no “reason to await, perhaps indefinitely, action by the Legislature when this Court has the competence and authority to determine the existence of a common-law duty.” *Roberts v. Salmi*, 308 Mich. App. 605, 631 (2014).

303. Deflecting the responsibility to change archaic common law onto the legislature is an abdication of judicial duty. *See Placek*, 405 Mich. at 657 (“when dealing with judge-made law, this Court in the past has not disregarded its corrective responsibility in the proper case”); *Moning*,

¹⁰⁴ *See also Stevenson*, 416 Mich. at 392 (abolishing the common-law year-and-a-day rule in homicide cases); *Placek*, 405 Mich. at 650 (abolishing common-law contributory negligence as a total bar to recovery and adopting pure comparative negligence); *Plumley v. Klein*, 388 Mich. 1, 5-8 (1972) (abolishing the common-law rule that children cannot bring a tort cause of action against their parents); *James v. Alberts*, 464 Mich. 12, 18 (2001) (abolishing the common-law “volunteer” doctrine); *Pittman v. City of Taylor*, 398 Mich. 41, 50 (1976) (abrogating the common-law doctrine of state governmental immunity); *Serafin v. Serafin*, 401 Mich. 629, 634 (1977) (abolishing common law evidentiary rule, which prevented spouses from testifying that they had no access to each other at the time a child was conceived to prove the husband's lack of paternity).

400 Mich. at 436 (“The law of negligence was created by common law judges and, therefore, it is unavoidably the Court’s responsibility to continue to develop or limit the development of that body of law absent legislative directive.”).

304. When Judge Wilson confronted whether to change archaic common law so that an elephant could invoke the protections of habeas corpus, he recognized that “[t]he Great Writ’s use, as a case by case tool to probe whether the law may need to adapt, is part of the fundamental role of a common law court to adapt the law as society evolves.” *Breheny*, 38 N.Y.3d at 617 (Wilson, J, dissenting). He thus admonished the majority for deflecting its judicial responsibility onto the legislature:

The judges, Justice Paine among them, who issued writs of habeas corpus freeing enslaved persons, or liberating women and children from households run by abusive men, or ordering the return home of underage soldiers could have said, as the majority does here, “that’s a job for the legislature.” They could have said, “existing law offers some protections, and we dare not do more.” They could have said, “we can’t be the first.” But they did not.

Id.

305. Judge Rivera similarly stated: “[I]t is for this Court to decide the contours of the writ based on the qualities of the entity held in captivity and the relief sought. The difficulty of the task—i.e., determining the reach of a substantive common-law right whose existence pre-dates *any* legislative enactment on the subject and whose core guarantees are unalterable by the legislature—is no basis to shrink from our judicial obligation by recasting it as the exclusive purview of the legislative branch. The common law is our bailiwick.” *Id.* at 633 (Rivera, J, dissenting).

306. Accordingly, this Court must not deflect its responsibility to recognize the DeYoung Prisoners’ common law right to bodily liberty protected by habeas corpus onto the legislature.

HABEAS CORPUS RELIEF

VI. The DeYoung Prisoners are entitled to immediate release from their illegal imprisonment.

307. The preceding sections establish not only that the DeYoung Prisoners have the common law right to bodily liberty protected by habeas corpus, but also that their right has been violated, thereby rendering their imprisonment illegal. Accordingly, the DeYoung Prisoners are entitled to release from their illegal imprisonment through habeas corpus. *See Goetz*, 256 Mich. at 570 (“If a party is unlawfully imprisoned, the writ of habeas corpus is his appropriate legal remedy.”) (citation omitted); MCL 600.4352 (“If no legal cause is shown for the restraint, or for the continuation thereof, the court or judge shall discharge the person restrained from the restraint under which he is held.”).¹⁰⁵

308. It has long been understood that “common-law habeas corpus was, above all, an adaptable remedy,” with its “precise application and scope” changing “depending upon the circumstances.” *Boumediene v. Bush*, 553 U.S. 723, 779 (2008). Indeed, the Great Writ’s very nature “demands that it be administered with the initiative and flexibility essential to insure that miscarriages of justice within its reach are surfaced and corrected.” *Harris v. Nelson*, 394 U.S. 286, 291 (1969).

309. That the DeYoung Prisoners cannot be released onto the streets of Michigan is no barrier to habeas corpus relief. At a proper chimpanzee sanctuary, the DeYoung Prisoners will be provided with the specialized care necessary to satisfy their complex social, emotional, and

¹⁰⁵ A “right must have a remedy.” *Bauserman*, 509 Mich. at 691 (citation omitted). It is a “deep-seated principle of Anglo-American law” that “where one’s right is invaded or destroyed, the law gives a remedy to protect it or damages for its loss.” *People v. Kabongo*, 507 Mich. 78, 135 (2021), *abrogated on other grounds by People v. Yarbrough*, 511 Mich. 252 (2023) (cleaned up). *See also Stout v. Keyes*, 2 Doug 184, 187 (1845) (“It is a general principle of the common law, that whenever the law gives a right, or prohibits an injury, it also gives a remedy by action; and, where no specific remedy is give[n] for an injury complained of, a remedy may be had by special action on the case.”).

physical needs for the duration of their life, and allow for them to exercise *their autonomy to the greatest degree possible*. See *Breheny*, 38 N.Y.3d at 598, 640-41 (Rivera, J., dissenting) (“the writ is flexible” and can be “applied innovatively by courts to achieve a just and workable outcome” for a nonhuman animal who “cannot live as a free being within human society”); *id.* at 641 (While Happy cannot be released onto the streets, “a court can order the most practical and humane alternative: transfer to an elephant sanctuary. This is the safest place for Happy *because it most closely approximates her natural environment.*”) (emphasis added).

310. Such relief is analogous to habeas corpus cases involving infants,¹⁰⁶ minors at reform schools,¹⁰⁷ and mentally incapacitated or elderly patients.¹⁰⁸ See *In re Payette*, 315 Mich. 700 (1946) (“Our issuance of a writ does not preclude the taking of further action either immediately or after it is determined that the girl will not be properly safeguarded under home or other conditions.”). As Judge Wilson explained: “underscoring the flexibility of the Great Writ, its history evinces that habeas corpus could be used to transfer custody from one confinement, if

¹⁰⁶ *Goodchild v. Foster*, 51 Mich. 599 (1883) (imprisonment was unlawful, children released to mother).

¹⁰⁷ See *Ex parte Brooks*, 331 Mich. 628 (1951) (minor “is ordered to be released” from training home for feeble-minded youth to father’s care on father’s habeas petition); *Walls v. Dir. of Institutional Servs.*, 84 Mich. App. 355, 360 (1978) (“Petitioner was a juvenile with limited capacity to read” confined at a training school based on an unconstitutional hearing, the court thus ruled his “confinement therefore is improper” and a writ to “release petitioner is ordered.”); *In re Maffett*, 304 Mich. 173 (1943) (guardian sought habeas corpus to inquire into cause of child’s detention after child was adjudged feeble-minded person and committed to institution); *Ex parte Roberts*, 310 Mich. 560, 561-63 (1945) (mother brought a habeas corpus proceeding to inquire “into the cause of the detention of her son . . . in the Kalamazoo State hospital” for insanity; “the petition for his release [was] granted.”); *In re Aslanian*, 318 Mich. 55 (1947) (release of minor from school for “feeble minded” mother’s petition for habeas corpus); *In re Pierce*, 74 Mich. 239 (1889) (eleven-year-old discharged from reform school).

¹⁰⁸ The writ of habeas corpus “penetrates the walls of insane asylums as fully and freely as any other place where persons are illegally restrained of their liberty.” *Palmer v. Circuit Judge of Kalamazoo County*, 83 Mich. 528, 536 (1890). See *Ex parte Clifford*, 303 Mich. 84, 85 (1942) (discharge from insane asylum); *Schantz v. Ruehs*, 348 Mich. 680, 683 (1957); *In re Gordon*, 301 Mich. 224 (1942) (petitioner discharged from hospital because “the commitment was unauthorized and void.”).

determined to be unlawful, to another type of custody; habeas petitions were not required to seek or result in total liberation as the remedy. That aspect of habeas corpus is evident across issues impacting children, women, and enslaved people.” *Breheny*, 38 N.Y.3d at 598 (Wilson, J., dissenting).

311. NhRP’s requested relief is *not* analogous to cases where a prisoner challenges the conditions of their confinement.¹⁰⁹ That is, NhRP does not seek to *improve* the conditions at DFZ, any more than a human prisoner who is being illegally imprisoned seeks to improve the conditions of his prison. *See Breheny*, 38 N.Y.3d at 637 (Rivera, J., dissenting) (recognizing NhRP’s “core argument” that an elephant’s confinement at a zoo “was a violation of her right to bodily liberty as an autonomous being, regardless of the care she was receiving”).

312. The conditions at DFZ are not at issue in this case because the sole question is whether the DeYoung Prisoners may be imprisoned at all. *Cf. Stanley*, 49 Misc. 3d at 749 (“The conditions under which [the chimpanzees] Hercules and Leo are confined are not challenged by petitioner [T]he sole issue is whether Hercules and Leo may be legally detained at all.”); *People ex rel Nonhuman Rights Project, Inc v. Lavery*, 124 A.D.3d. 148, 149 (2014) (“Notably, we have not been asked to evaluate the quality of Tommy’s current living conditions in an effort to improve his welfare.”). “A gilded cage is still a cage.” *Breheny*, 38 N.Y.3d at 628 (Rivera, J., dissenting).

¹⁰⁹ *Cf. Phillips*, 153 Mich. App. at 565 (stating that habeas corpus is proper to challenge “the fact or duration of confinement,” but not to attack “the conditions of confinement”). *But see In re Kemmerer*, 309 Mich. 313, 317 (1944) (“He is entitled to proper care such as his condition and the good of society demands. If he is not receiving it and is suffering any unusual punishment, he can always present a petition for *habeas corpus* preferably to the circuit court of Jackson County where proper and full inquiry can be made into the facts.”).

313. Accordingly, because the DeYoung Prisoners are being illegally imprisoned, this Court must order them set free to a place that “most closely approximates [their] natural environment.” *Id.* at 641 (Rivera, J., dissenting). As recommended by the experts, a GFAS-accredited chimpanzee sanctuary will allow them to exercise their autonomy and extraordinary cognitive complexity to the greatest extent possible.

CONCLUSION

314. While the “nature of injustice is that we may not always see it in our own times,” *Obergefell*, 576 U.S. at 664, it is this Court’s solemn obligation to see it here and correct it. The DeYoung Prisoners are autonomous complex beings who experience the suffering of imprisonment much in the same way as we do, and should be treated no differently for purposes of habeas corpus. They are entitled to freedom from their illegal imprisonment. Proper application of Michigan’s venerated common law must result in these magnificent, innocent beings living the rest of their lives as autonomous chimpanzees to the greatest extent possible.

PRAYER FOR RELIEF

WHEREFORE, Petitioner respectfully demands the following relief:

A. Issuance of an order to show cause pursuant to MCL 600.4316 and MCR 3.303 (D), requiring Respondents to file an answer justifying their imprisonment of the DeYoung Prisoners: Prisoner A (aka Louie), Prisoner B, Prisoner C, Prisoner D, Prisoner E, Prisoner F, and Prisoner G;

B. Upon a determination that the DeYoung Prisoners are being illegally imprisoned, order their release from the DeYoung Family Zoo and relocation to a chimpanzee sanctuary accredited by the Global Federation of Animal Sanctuaries;

C. Grant such other and further relief as this Court deems just and proper.

December 4, 2023

Respectfully submitted,

/s/ Ginny Mikita

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N.Y. Bar No. 1721083
**Pro hac vice* application pending

Attorneys for Petitioner

EXHIBIT 1

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DECLARATION OF DR. JANE GOODALL

I, Jane Goodall, PhD., DBE declare as follows:

Introduction and Qualifications

1. My name is Jane Goodall. I am the founding director and president of the Jane Goodall Institute, UN Messenger of Peace, ethologist, and conservationist. I received a PhD in Ethology from Newnham College, Cambridge University in 1966, and have been awarded honorary degrees from 58 Universities from nearly every continent, including institutes of higher learning in Africa, Asia, Europe, North America, and South America.

2. I submit this Declaration in support of the Nonhuman Rights Project, Inc.'s complaint for a writ of habeas corpus regarding the captive chimpanzees at DeYoung Family Zoo. I am a non-party to this proceeding.

3. In 1977, I founded the Jane Goodall Institute, which is considered a global leader in the effort to protect chimpanzees and their habitats. The Institute is widely recognized for innovative, community-centred conservation and development programs in Africa, and in 1991 I started "Jane Goodall's Roots & Shoots" program, a global environmental and humanitarian youth program comprised of thousands of groups in over 65 countries. For the first part of my career I worked in the forest of Gombe, Tanzania studying the behaviour of wild chimpanzees, obtaining a PhD (despite having no undergraduate degree) in ethology from Cambridge University. I have been appointed to the following academic positions: (1) Visiting Professor, Department of Psychiatry and Program of Human Biology, Stanford University; (2) Honorary Visiting Professor in Zoology, University of Dar es Salaam, Tanzania; (3) Adjunct Professor of the Department of Environmental Studies, Tufts University, School of Veterinary Medicine; (4) Distinguished Adjunct Professor, Departments of Anthropology and

Occupational Therapy, University of Southern California; and (5) Andrew D. White Professor-at-Large, Cornell University.

4. During my career I have received over 170 awards from a variety of wildlife conservation, academic, media, government, and nongovernment organizations. Most notably, I received the Kyoto Prize in Basic Science in 1990, was appointed as a United Nations Messenger of Peace in 2001 and received a DBE (Dame of the British Empire) in 2004. I was awarded the French Legion of Honour in 2006, the United Nations Educational, Scientific and Cultural Organization's Gold Medal Award in 2006, and the United States Department of the Interior, Secretary's Lifetime Achievement Award in 2009. Other awards that I have received include: (1) the Centennial Award from the National Geographic Society in 1988; (2) the Anthropologist of the Year Award in 1989; (3) the Edinburgh Medal, UK in 1991; (4) the Rainforest Alliance Lifetime Achievement Award in 1993; (5) the Commander of the British Empire, presented by Her Majesty Queen Elizabeth II in 1995; the National Science Board Public Service Award in 1998; (6) the International Peace Award in 1999; (7) the Harvard Medical School's Center for Health and the Global Environment award in 2003; (8) the Nierenberg Prize for Science in the Public Interest in 2004.

5. I have been affiliated with 90 wildlife, conservation, humanitarian, professional and governmental organizations. The most relevant include: (1) Member of the Board of the Orangutan Foundation since 1994; (2) President of Advocates for Animals from 1998 to May 2008; (3) Member of the Board, Save the Chimps / Center for Captive Chimpanzee Care from 2000 to 2007; (4) Member of the Honorary Board, Albert Schweitzer Institute since 2003; (5) Member of the Advisory Board, Initiative for Animals and Ethics, Harvard University since 2004; (6) Member of the Advisory Board, Chimps Inc., from 2005; (7) Honorary Board, Center for Great Apes since 2012; and (8) Member of the Board of Directors of the Nonhuman Rights Project since 1996.

6. My research specialization is in the study of the behaviour and ecology of chimpanzees. This study began in 1960 in the Gombe National Park in Tanzania, and I initiated a study of the baboons (*Papio Anubis*) in 1972. Both of these studies are ongoing under the direction of Dr. Deus Mjungu and Dr. Anthony Collins.

7. I have written or co-authored 36 books for adults and children, including: (1) *My Friends the Wild Chimpanzees* (1967, National Geographic Society); (2) *In the Shadow of Man* (1971, Boston: Houghton Mifflin; London: Collins) that has been translated into more than 50 languages; (3) *The Chimpanzees of Gombe: Patterns of Behaviour* (1986, Harvard University Press); (4) *Through a Window: My Thirty Years with the Chimpanzees of Gombe* (1990, London: Weidenfeld & Nicolson; Boston: Houghton Mifflin); (5) *Visions of Caliban* (1993, Boston: Houghton Mifflin); (6) *Brutal Kinship* (1999, New York: Aperture Foundation); (7); *Reason For Hope: A Spiritual Journey* (1999, Warner Books, Inc); (8) *The Ten Trusts: What We Must Do To Care for the Animals We Love* (2002, San Francisco: Harper San Francisco); (9) *Harvest for Hope*; (10) *Hope for Animals and their World*; (11) *Seeds of Hope* and (12) *The Book of Hope*.

8. *In the Shadow of Man* was translated into 50 different languages, while *Through a Window: My Thirty Years with the Chimpanzees of Gombe*, and *Reason for Hope: A Spiritual Journey* were translated into 15 and 13 languages respectively. *Visions of Caliban* was honoured by the New York Times as a “Notable Book” for 1993, as well as Library Journal, which awarded it “Best Sci-Tech Book” for 1993. The Book of Hope is already translated into more than 20 languages.

9. Since 1963, I have been featured in approximately 20 science-related films, produced by networks including the National Geographic, HBO, BBC, PBS, Animal Planet / Discovery Communications. HBO’s film “*Chimps, So Like Us*” was nominated for the 1990 Academy Award. National Geographic’s ‘*JANE*’ was nominated for an Emmy.

10. I have published more than 80 articles, including peer-reviewed articles in the world's most-cited scientific journals: *Nature*, *Science*, *The American Journal of Psychiatry*, *The American Journal of Physical Anthropology*, *The American Journal of Primatology*, *The International Journal of Primatology*, *Conservation Biology*, *The New York Academy of Science*, *Philosophical Transactions of the Royal Society*, *Folia Primatologica* (the official journal of the European Federation for Primatology), *Journal of Medical Primatology*, *Journal of Human Evolution*, *Primates*, *Journal of Virology*, *Zoological Society of London*, and *the Society for Reproduction and Fertility*. My articles have also been featured in *National Geographic* and *Science News*. These publications covered topics on the behaviour, ecology, welfare, and conservation of chimpanzees, baboons and other monkeys. Specific topics of these publications include: tool-use, diet, feeding behaviour, expressive movements, communication, play, reproductive behaviour, reproductive constraints on aggressive competition, mother-child bonds, culture, aggressive behaviour, predation, community behaviour, mortality, ranging patterns, continuities between chimpanzee and human behaviour, ecological factors, sleeping behaviour, cannibalism, competitive behaviour, inter-community interactions with humans, population dynamics, infanticide, innovative behaviour, shunning, skeletal biology, gene flow and evolution of chimpanzees, social structure, psychosocial needs, simian immunodeficiency virus, unusual violence, anogenital swelling in pregnant chimpanzees, appropriate conditions for maintenance of chimpanzees.

11. I regularly give lectures and take part in international symposia on primatology. I currently spend more than 300 days out of the year travelling around the world speaking on the need to improve captive welfare of chimpanzees (and other animals in zoos) and the urgent need to protect and restore natural habitats.

12. My Curriculum Vitae fully sets forth my educational background and experience and is attached as Exhibit A.

13. Basis for Opinions

14. The opinions I state in this Declaration are based on my professional knowledge, education, training, and over 60 years of observing and writing about chimpanzees, including my 45-year study of social and family interactions in the wild chimpanzees of Gombe Stream National Park, Tanzania and my continuing work on chimpanzee behaviour, welfare and conservation through the Jane Goodall Institute.

Opinions

15. The long-term nature of the research conducted on wild chimpanzees in Gombe National Park provides a unique opportunity to observe and study the lives of chimpanzees in nature over many years and generations. During this period of continuous study my colleagues and I have learned much of enormous significance about chimpanzee behaviour, their personalities, intelligence and emotions. Theirs is a highly complex society. Their life in the wild provides them with a continually changing environment, both socially and physically, and they are confronted by many challenges, including finding food and maintaining or improving their position in their community

16. There is ample proof from studies of chimpanzee behavior, both in the wild and in captivity, that chimpanzees are autonomous beings with a highly complex cognitive nature, which can be illustrated by their ability to perform complex tasks. Following are some examples.

17. The duties and responsibilities of a mother towards her offspring are many and often onerous. For three years the infant is dependent on breast milk, and continues to suckle though less often for the next two years until the next baby is born. Throughout this period the mother continues to carry the infant, at first clinging to her belly and then riding on her back. During this time the mother waits for the child before moving off. And she constructs a nest large enough for herself and her child until the next baby is born.

18. The mother's duties and responsibilities do not end when a new infant is born. For the next couple of years she still waits for the older child before moving from one place to another. When the older child is male, he is often anxious to join groups of adult males, particularly when there is a lot of excitement. Mothers with small infants often prefer to avoid such groups. Sometimes a mother, after setting off in her chosen direction, stops when her six-year-old son whimpers and refuses to follow, going some distance towards the males. Each time she moves, he cries louder. Some mothers then give in, and join the males in order to provide support for their sons.

19. An important component of maternal responsibility is to provide support for her child. During a play session her infant sometimes gets hurt and screams – the mother will hasten to support her child, reprimanding the rough playmate even though this may entail retaliation from a more dominant mother.

20. There have been many instances when mothers have gone to help their fully-grown offspring.

21. In the wild the father plays no role in family life. We can now determine paternity from DNA profiling of fecal samples, but as a female may be mated by most or all males during periods of receptivity, it is difficult to see how a child could recognize his or her father, (though there are some tantalizing suggestions that it may indeed be possible. Further research is needed). However, most adult males of a community act in a paternal way to all infants in their community, rushing to their aid when necessary. On one occasion two hunters (human) shot a female chimpanzee, seized her infant, and tried to push it into a sack. As the infant screamed, a male chimpanzee rushed out of the forest, attacked the two men, grabbed the baby, and disappeared into the forest. Both hunters ended up in the hospital. There are many other tales of adult males protecting – or

trying to protect – infants from hunters across Africa. Tragically they often get killed themselves.

22. Juveniles and adolescents very frequently act responsibly towards their infant siblings. (When I refer to ‘brother’ and ‘sister’ I mean maternal brother and sister.) One nine- year-old female, who had run in terror from a large poisonous snake, nevertheless climbed down from her tree to gather up and carry to safety her three-year-old brother, who seemed unaware of the danger. A different adolescent female prevented her infant brother from following their mother when the trail passed through a clump of tall grasses. He screamed loudly, but she persisted until the grasses were behind them – I examined the place – it was infested, with tiny ticks. (Subsequently the mother sat picking ticks off herself for a long time.)

23. An older sibling will almost always adopt an infant if their mother dies. Under the age of three the infant, dependent on breast milk, will die. One five-year-old male carried his one and a half year old sister around until she died, a few months later. Older infants usually survive when they are adopted. This responsibility is clearly not socially advantageous for the young caregiver, who spends a lot of time and energy caring for the infant.

24. We now know that unrelated individuals may adopt orphaned infants. At Gombe a 12-year-old adolescent male cared for a three and a half year old male orphan, and definitely saved his life. His altruistic behaviour was most impressive when he ran to seize the orphan when he got too close to socially roused males – despite the fact that adolescent males normally keep well away from the adult males at such times. He often got beaten up for his altruistic behavior, but this did not prevent him from acting in the same way the next time his help was needed.

25. The adult males of a community are responsible for patrolling their territory, chasing away or attacking individuals from neighboring communities – this serves to protect and sometimes increase resources for their own females and young. This requires close cooperation and gang attacks. Even two males who may be engaged in challenging each other for social dominance within the community will join in an attack on a stranger.

26. None of the many field staff, students and other researchers who have worked among the Gombe chimps for 62 years have ever been really harmed. We have been hit, stamped on and dragged during displays, but never received bite wounds. One male in particular, Frodo, was continually charging people and hitting them, and he sometimes pushed me over. It is clear, however, that the chimpanzees only intend to impress: to emphasize their superiority. They could so easily harm us badly, even kill us. On three separate occasions, when I was above a very steep drop, Frodo charged up but did not make contact. Our videographer, Bill Wallauer, reported four such occasions. It was very clear to us that Frodo understood what would have happened on those seven occasions. The same thing happened to me once with a different alpha male. They are clear examples of intention *not* to harm.

27. I have written about a male chimpanzee in captivity who rescued his human caretaker, Mark Cusano, with whom he had a close relationship, from a very bad attack from three adult females. Mark told me that the chimp had saved his life.

I declare under penalty of perjury under the laws of the state of Michigan that the foregoing is true and correct, and that I am physically located outside the geographic boundaries of the United States, Puerto Rico, the United States Virgin Islands, and any territory or insular possession subject to the jurisdiction of the United States.

Executed on _____ 16th day of August 2023
(date) (month)

_____ Dar Es Salaam, Tanzania _____,
(city or other location, and state) (country)

_____ Dr. Jane Goodall, DBE _____

_____  _____
(signature)

EXHIBIT A

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the Jane Goodall Institute

Curriculum Vitae Jane Goodall, Ph.D., DBE, Founder of the Jane Goodall Institute & UN Messenger of Peace www.janegoodall.org

Personal

Date of Birth: 3rd April 1934

Nationality: British

Marital Status: Married to Baron Hugo van Lawick, 1964 (divorced);

Married to Hon. Derek Bryceson, M.P., 1975 (widowed)

Children: Hugo Eric Louis van Lawick (1967 -)

Education

1950 School Certificate (London) with Matriculation Exemption

1952 Higher Certificate (London)

1962 Entered Cambridge University, United Kingdom, as Ph.D. candidate in Ethology under Professor Robert Hinde

1966 Ph.D. in Ethology, Newnham College, Cambridge University, United Kingdom

Research

From 1960 Behavior of free-living chimpanzees in Gombe National Park, Tanzania

1968 – 1969 Social behavior of the spotted hyena, *Crocutta crocutta*, Ngorongoro Conservation Area, Tanzania

1967 – 2003 Scientific Director of the Gombe Stream Research Centre, Tanzania

1972 – 2003 Director of research on the behavior of the olive baboon, *Papio anubis*, Gombe National Park, Tanzania

Academic Appointments

1971 – 1975 Visiting Professor, Department of Psychiatry and Program of Human Biology, Stanford University, Calif., USA

From 1973 Honorary Visiting Professor in Zoology, University of Dar es Salaam,
Tanzania

1987 – 1988 Adjunct Professor of the Department of Environmental Studies, Tufts
University, School of Veterinary Medicine, Boston, Mass., USA

1990 Associate, Cleveland Natural History Museum, Cleveland, OH, USA

1990 Distinguished Adjunct Professor, Departments of Anthropology and Occupational
Therapy, University of Southern California, Calif., USA

1996 – 2002 Andrew D. White Professor-at-Large, Cornell University, NY, USA

Professional Affiliations

From 1974 Trustee, L.S.B. Leakey Foundation, USA

From 1976 Trustee, the Jane Goodall Institute for Wildlife Research, Education and
Conservation, USA

From 1981 Scientific Governor, Chicago Academy of Sciences, USA

From 1984 International Director, ChimpanZoo (research program involving zoos and
sanctuaries worldwide), USA

From 1987 Vice President, the British Veterinary Association's Animal Welfare Institute,
UK

From 1988 Trustee, Jane Goodall Institute, UK

From 1989 Director, Humane Society of the United States, USA

From 1990 Member of the Advisory Board, Advocates for Animals, UK

From 1991 Member of the Advisory Board, the Albert Schweitzer Institute for the
Humanities, USA

From 1993 Trustee, the Jane Goodall Institute, Canada

From 1994 Member of the Board, the Orangutan Foundation, USA

From 1994 Member of the Advisory Board, Trees for Life, USA

From 1997 Founder, Whole Child Initiative, USA

From 1995 Member of the Advisory Board, International Dolphin Project and Dolphin Project Europe

From 1995 Member of Council of Advisors, Global Green, USA

From 1996 Member of Advisory Board, The Fred Foundation, Netherlands

From 1998 to May 2008 President, Advocates for Animals, UK

From 1999 Member of Advisory Board, The Orion Society, USA

From 2000 to 2007 Member of the Board, Save the Chimps/Center for Captive Chimpanzee Care, USA

From 2000 Co-founder of Ethologists for Ethical Treatment of Animals/Citizens for Responsible Animal Behavior, USA

From 2001 Member of the International Advisory Board, Teachers Without Borders, USA

From 2001 Member of Advisory Committee, RESTORE, USA

From 2001 Honorary Trustee, The Eric Carle Museum of Picture Book Art, USA

From 2001 Member of IPS Ad-Hoc Committee for the World Heritage Status for Great Apes

From 2001 Member of Board of Trustees, NANPA Infinity Foundation, USA

From 2001 Member of Board, North American Bear Center, USA

From 2001 Member of Advisory Board, Laboratory Primate Advocacy Group, USA

From 2001 Member of Advisory Board, Tech Foundation, USA

From 2001 Member of Honorary Committee, Farm Sanctuary, USA

From 2002 Member of Advisory Board, Rachel's Network, USA

From 2002 Member of the Board of Directors, The Cougar Fund, USA

From 2002 Scientific Fellow of the Wildlife Conservation Society, USA

From 2002 Member of Board of Directors, The Many One Foundation, USA

From 2002 Member of Board of Governors and Officers, For Grace, USA

From 2002 Member of Advisory Board, Dignity U Wear, USA

From 2002 to 2003 Papadopoulos Fellow, The Kinkaid School USA

From 2003 Member of the Honorary Board, Albert Schweitzer Institute, USA

From 2004 Member of Advisory Board, Initiative for Animals and Ethics, Harvard University, USA

From 2004 Honorary Patron, Ryan's Well Foundation, Canada

From 2004 Member of Advisory Board, MONA-Spain

From 2004 Member of the Advisory Council, The Spiritual Alliance to Stop Intimate Violence, USA

From 2004 Member of Honour Committee of Fundación Altarriba, Spain

From 2005 Member of International Advisory Board, Friends of Africa International, USA

From 2005 Member of Cincinnati Zoo Advisory Council, USA

From 2005 Member of Advisory Board, Chimps Inc., USA

From 2005 Member of Advisory Board, KidsRights, Netherlands

From 2005 Member of Advisory Board, MediSend, USA

From 2005 Member of Honorary Board, Quinnipiac University, USA

From 2006 Member of Advisory Board, Foundation for Natural Leadership

From 2006 Member of Advisory Board, Nuclear Age Peace Foundation, USA

From 2006 Honorary Member, Club of Budapest, Hungary

From 2006 Member of the Mothers Network, ENO, Finland

From 2006 Member of Board of Directors, National Institute for Play, USA

From 2007 Fellow, Wings WorldQuest, USA

From 2007 Member of Advisory Board, Gift of Life in America, Inc., USA

From 2007 Member of Advisory Board, The Heart of America Foundation, USA

From 2007 Member of Advisory Board, Project R&R: Release and Restitution for
Chimpanzees in U.S. Laboratories, a campaign of the New England Anti-
Vivisection Society, USA

From 2007 Member of Advisory Board, Save the Chimps, USA

From 2007 Member of Advisory Board, Slow Food Nation, USA

From 2007 Distinguished Fellow, Ewha Academy for Advanced Studies, Republic of
Korea

From 2007 Member of Advisory Board, Human and KIND, USA

From 2007 Honorary Board Member, The Scholar Ship Research Institute, UK

From 2007 Member of Advisory Board, Climate Clean, USA

From 2008 Member of the Great Chapter, Grace Cathedral, CA, USA

From 2008 Honorary Board Member, Eagle Vision Initiatives, USA

From 2008 Honorary Patron, Comunidad Inti Wara Yassi, UK

From 2008 Honorary Fellow, Institute of Biology, UK

From 2008 Patron, Earth Charter-UK

From 2008 Special Advisor for Biodiversity, Prince Albert II of Monaco Foundation,
Monaco

From 2008 Member of Council of Honour, Waldrappteam, Austria

From 2008 Member of the Board, Climate Change Center, Republic of Korea

From 2008 Patron, Julia's House, UK

From 2008 Member of the Honorary Committee, Alpine Peace Crossing, Austria

From 2008 Member of the Advisory Council, Ebola Vaccination Initiative

From 2008 Patron, Society of Theological Zoology, Germany

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From 2008 Member of Celebrity Circle Board, Green Chimneys, USA

From 2009 Honorary Keeper of the Museum Tridentino of Natural Science, Italy

From 2009 Member of Advisory Board, EcoReserve, USA

From 2009 Honorary Fellow, Society of Biology, UK

From 2009 Member of Advisory Board, Goodplanet Foundation of Yann
ArthusBertrand, France

From 2009 Member of Advisory Board as advisor for Biodiversity, Foundation Jacques
Chirac, France

From 2010 Honorary Co-Chair of the Build the Peace Committee, USA

From 2010 to 2013 Patron, Minding Animals International, Australia

From 2010 Member of the International Conference, WE, USA

From 2010 Member of Advisory Board, Living with Wolves, USA

From 2010 Goodwill Ambassador, Equine Sciences Academy, USA

From 2010 Acclaimed Ambassador, Best Friends Animal Society, USA

From 2011 Member of the Advisory Council, Voices for a World Free of Nuclear
Weapons, USA

From 2011 Patron, Voiceless, Australia

From 2012 Honorary Councilor, World Future Council, Germany

From 2012 Honorary Board, Center for Great Apes, USA

From 2013 International Patron, School Broadcasting Network Inc., Australia

From 2013 Member of Scientific and Ethics Council, Ecolo-Ethik, France

From 2013 Philosophical Society, Trinity College, Dublin, Ireland

From 2014 Member of Advisory Council, International Women's Earth and Climate
Initiative (IWECD), USA

From 2014 Member of Advisory Board, Years of Living Dangerously, USA

From 2014 Advisor to Board, APOPO, USA

From 2014 Advisory Board, Mongabay.org, USA

From 2014 to 2020 Honorary Board of Directors, IFAW, USA

From 2015 Patron of Nature, IUCN, USA

From 2016 Member of Ocean Elders, USA

From 2020 Global Ambassador, IFAW, USA

From 2021 COP26 Advocate

From 2021 to 2023 Patron of the Council for the Human Future, Australia

From 2022 Member of the Comité de Gestion, Advisor for the Yoro Biological Corridor,
Republic of Honduras

From 2022 Patron of Friends of Nature (FON)

Memberships

1972 Honorary Foreign Member of the American Academy of Arts and Sciences, USA

1981 Explorer's Club, USA

1984 Foreign Member of the Research Centre for Human Ethology at the Max-Planck
Institute for Behavioral Physiology, Germany

1988 American Philosophical Society, USA 1988

Society of Woman Geographers, USA

1990 Deutsche Akademie der Naturforscher Leopoldina, Germany

1991 Academia Scientiarum et Artium Europaea, Austria

1991 Honorary Fellow of the Royal Anthropological Institute of Great Britain and
Ireland

2004 Great Ape Subsection of the Primate Specialist Group, USA

2006 Honorary Member, Ewha Academy of Arts and Sciences, Republic of Korea

2006 Member of the International Primatological Society, USA

Honorary Degrees

1975 LaSalle College, Philadelphia, Penn., USA

1979 Stirling University, Stirling, Scotland, UK

1986 Ludwig-Maximilians University, Munich, Germany

1986 Zoologisches Institut der Universitat Munchen, Munchen, Germany

1986 Tufts University, Boston, Mass., USA

1988 University of North Carolina, Greensboro, N.C., USA

1990 University of Pennsylvania, Philadelphia, Penn., USA

1991 Colorado College, Colorado Springs, Colo., USA

1993 College of William and Mary, Williamsburg, Va., USA

1993 University of Miami, Coral Gables, Fla., USA

1994 Utrecht University, Utrecht, Netherlands

1996 Western Connecticut State University, Danbury, Conn., USA

1996 Salisbury State University, Salisbury, Md., USA

1997 University of Edinburgh Veterinary School, Edinburgh, Scotland, UK

1998 University of Guelph, Guelph, Ontario, Canada

1999 Albright College, Reading, Penn., USA

2000 Wesleyan College, Macon, Ga., USA

2001 University of Minnesota, Minneapolis, Minn., USA

2001 University at Buffalo, Buffalo, N.Y., USA

2001 Ryerson University, Toronto, Ontario, Canada

2001 Providence University, Taiwan, Republic of China

2002 Elon University, Elon, N.C., USA

2002 Sweet Briar College, Sweet Briar, Va., USA

2003 University of Central Lancashire, UK

2004 University of Natal, Pietermaritzburg, South Africa

2004 Haverford College, Haverford, Penn., USA

2005 Pecs University, Pecs, Hungary

2005 Syracuse University, Syracuse, N.Y., USA

2005 Rutgers, The State University of New Jersey, Camden, N.J., USA

2006 The Open University of Tanzania, Dar es Salaam, Tanzania

2007 Doane College, Crete, Neb., USA

2007 Uppsala University, Uppsala, Sweden

2007 Kyoto University, Kyoto, Japan

2007 University of Liverpool, Liverpool, UK

2008 Lehigh University, Bethlehem, Penn., USA

2008 University of Toronto, Toronto, Canada

2008 University of Haifa, Haifa, Israel

2008 National Taiwan University of Science and Technology, Taiwan, Republic of China

2009 University of Liège, Liège, Belgium

2009 University of Pablo de Olavide, Seville, Spain

2009 University of Alicante, Sant Vicent del Raspeig/Alicante, Spain

2011 American University of Paris, Paris, France

2011 Giordano Bruno GlobalShift University, Budapest, Hungary

2011 Maimonides University, Buenos Aires, Argentina

2012 National Tsing Hua University, Taiwan

2012 Goldsmiths, University of London, UK

2013 University of St. Andrews, Scotland, UK

2013 Trinity College, Dublin, Ireland

2013 St. Ignatius of Loyola University, Peru

2014 University of South Australia, Adelaide, Australia

2016 University of Redlands, Redlands, CA

2017 University of Winnipeg, Canada

2018 Simon Fraser University, Vancouver, BC, Canada

2018 Western University Canada, London, ON, Canada

2019 University of Cambridge, Cambridge, UK

2020 University of Zurich, Zurich, CH

2021 University of Hasselt, Hasselt, Belgium

2023 University of Pannon, Hungary

2023 EWha University, Korea

Awards

1963 and 1964 Franklin Burr Award for Contribution to Science, National Geographic Society, USA

1970 Stott Science Award, Cambridge University, UK

1974 Gold Medal for Conservation, San Diego Zoological Society, USA

1974 Conservation Award, Women's Branch of the New York Zoological Society, USA

1974 Bradford Washburn Award, Boston Museum of Science (with Hugo van Lawick), USA

1980 Order of the Golden Ark, World Wildlife Award for Conservation, presented by HRH Prince Bernhard of the Netherlands, Netherlands

1984 J. Paul Getty Wildlife Conservation Prize, Tanzania

1985 Living Legacy Award, the Women's International Center, USA

1986 Guardian of Wildlife Award, International Wildlife Park, Grand Prairie, USA

1987 The Albert Schweitzer Award of the Animal Welfare Institute, USA

1987 National Alliance for Animals Award

1987 Ian Biggs Prize

1987 E. Mendel Medaille from the Deutsche Akademie der Naturforscher Leopoldina, East Germany

1987 Golden Plate Award, Academy of Achievement, USA

1988 Centennial Award, National Geographic Society, USA

1988 Joseph Wood Krutch Medal, the Humane Society of the United States, USA

1988 Award for Humane Excellence, American Society for the Prevention of Cruelty to Animals, USA

1988 Encyclopedia Britannica Award for Excellence on the Dissemination of Learning for the Benefit of Mankind, USA

1989 Anthropologist of the Year Award

1989 Declaration of April 23, 1989 as Dr. Jane Goodall day in Ellensburg, Washington, USA

1990 The Anthropology in Media Award, American Anthropological Association, USA

1990 Whooping Crane Conservation Award, Conoco, Inc., USA

1990 Gold Medal of the Society of Women Geographers, USA

1990 Washoe Award

1990 The Kyoto Prize in Basic Science, Japan

1991 The Edinburgh Medal, UK

1993 Rainforest Alliance Lifetime Achievement Award, USA

1994 Chester Zoo Diamond Jubilee Medal, UK

1995 Commander of the British Empire, presented by Her Majesty Queen Elizabeth II, UK

1995 The National Geographic Society Hubbard Medal for Distinction in Exploration, Discovery, and Research, USA

1995 Lifetime Achievement Award, In Defense of Animals, USA

1995 The Moody Gardens Environmental Award, USA

1995 Honorary Wardenship of Uganda National Parks, Uganda

1995 Almansor Center Honoree, City of Los Angeles, USA

1996 The Zoological Society of London Silver Medal, UK

1996 The Tanzanian Kilimanjaro Medal, Tanzania

1996 The Primate Society of Great Britain Conservation Award, UK

1996 The Caring Institute Award, USA

1996 The Polar Bear Award, National Alliance for Animals

1996 William Proctor Prize for Scientific Achievement, Sigma Xi, USA

1996 Commended by the City of Los Angeles for efforts on behalf of animals and her assistance to the city zoo in planning for chimpanzees

1996 Certificate of Commendation by City of Los Angeles, USA

1997 Tyler Prize for Environmental Achievement, USA

1997 David S. Ingalls, Jr. Award for Excellence

1997 Commonwealth Award for Public Service, USA

1997 The Field Museum's Award of Merit

1997 Royal Geographical Society / Discovery Channel Europe Award for A Lifetime of Discovery

1997 Global 500 Roll of Honour Award, UNEP, Seoul, Korea

1997 Mayor of Los Angeles's Certificate of Appreciation

1997 Arkansas Traveler Award, Arkansas, USA

1998 Disney's Animal Kingdom Eco Hero Award, USA

1998 National Science Board Public Service Award, USA

1998 The Orion Society's John Hay Award, USA

1998 Commendation of Dr. Jane and the Roots and Shoots Project by Los Angeles, USA

1999 International Peace Award, Community of Christ, USA

1999 Whitney R. Harris World Ecology Center - World Ecology Award, USA

1999 Botanical Research Institute of Texas International Award of Excellence in Conservation, USA

1999 Honorary Citizen of Fort Worth, Texas, USA

2000 Reorganized Church of the Latter Day Saints International Peace Award, USA

2001 Graham J. Norton Award for Achievement in Increasing Community Liability

2001 Rungius Award of the National Museum of Wildlife Art, USA

2001 Master Peace Award

2001 Gandhi/King Award for Non-Violence, USA

2001 Recognized by the city of Los Angeles for her dedicated service to the community, Los Angeles, USA

2001 The Huxley Memorial Medal, Royal Anthropological Institute of Great Britain and Ireland

2002 United Nations Messenger of Peace Appointment, USA

2003 Benjamin Franklin Medal in Life Science, USA

2003 Harvard Medical School's Center for Health and the Global Environmental Citizen Award, USA

2003 Prince of Asturias Award for Technical and Scientific Achievement, Spain

2003 Chicago Academy of Sciences' Honorary Environmental Leader Award, USA

2003 Commonwealth Club Centennial Medallion Award

2003 Honorary Mayor of La Villita, San Antonio, Texas, USA

2003 The University of Mississippi declared April 9, 2003 as Dr. Jane Goodall Day, USA

2004 Dame of the British Empire, presented by HRH Prince Charles, UK

2004 Teachers College Columbia University Medal for Distinguished Service to Education, USA

2004 Nierenberg Prize for Science in the Public Interest, USA

2004 Will Rogers Spirit Award, the Rotary Club of Will Rogers and Will Rogers Memorial Museums

2004 Lifetime Achievement Award, the International Fund for Animal Welfare, USA

2004 Polar Star Award, Paris, France

2004 Save Our Species Award, Santa Barbara, Calif., USA

2004 Time Magazine European Heroes Award

2004 Extraordinary Service to Humanity Award, The Bear Search and Rescue Foundation, USA

2004 Medal for Distinguished Service to Education, Teachers College, Columbia University, N.Y., USA

2005 Lifetime Achievement Award, Jackson Hole Wildlife Film Festival, USA

2005 Siemens Academy of Life Award, Austria

2005 Westminster College President's Medal, Salt Lake City, Utah, USA

2005 National Organization for Women's Intrepid Award, USA

2005 Honorary Conservation Award, University of Iowa, USA

2005 Discovery and Imagination Stage Award, USA

2005 Westminster College President's Medal for Exemplary Achievement, Utah, USA

2005 Pax Natura Award, Utah, USA

2005 Two Wings Award, Vienna, Austria

2006 International Patron of the Immortal Chaplains Foundation, USA

2006 UNESCO 60th Anniversary Golden Medal Award, Paris, France

2006 French Legion of Honor, awarded by the President of France, Mr. Jacques Chirac, and presented by Prime Minister Dominique de Villepin

2006 Lifetime Achievement Award, Jules Verne Adventures

2006 Biophilia Award, Jazzpur Society, Windsor, Canada

2006 Genesis Award, Humane Society of the United States, USA

2007 Lifetime Achievement Award, WINGS WorldQuest

2007 Honorary Medal of the City of Paris, presented by Mr. Bertrand Delanoë, mayor of Paris, France

2007 Roger Tory Peterson Memorial Medal, Harvard Museum of Natural History, USA

2007 Shining World Leadership Award, the International Association

2007 Distinguished Fellow of the EWA Academy for Advanced Studies, EWA Woman's University, Seoul, South Korea

2008 Women of the Year Award for Environmentalist, Glamour Magazine, USA

2008 Presidential Medal for Global and Visionary Leadership, Montana State University, Bozeman, Mont., USA

2008 Prix de la Fondation Prince Albert II de Monaco, presented to David Lefranc by Prince Albert II of Monaco

2008 Prize for Sustainable Community Development, Weidemann Foundation, USA

2008 State of Rhode Island and Providence Plantations Citation, R.I., USA

2008 Eurogroup Award, Brussels, Belgium

2008 Courage of Conscience Award, The Peace Abbey, Sherborn, Mass., USA

2008 Environmental Education Award of Hebei University of Science and Technology, China

2008 L.S.B Leakey Foundation Prize for Multidisciplinary Research on Ape and Human Evolution (Leakey Prize), USA

2009 United States Department of the Interior, The Secretary's Lifetime Achievement Award, presented by Mr. Ken Salazar, USA

2009 Minerva Award, USA

2010 Association of American Geographers Atlas Award, USA

2010 International Golden Doves for Peace Award, Italy

2010 Peace Hero, Kids for Peace, USA

2010 BAMBI Award, Germany

2010 NEA Award for Outstanding Service to Public Education, NEA Foundation, Washington, D.C., USA

2011 Order of Merit of the Italian Republic, Italy

2011 Mayor's Medallion, Lincoln, Neb., USA

2011 Heart of Green Award for Lifetime Achievement, TheDailyGreen.com, USA

2011 Focus magazine's Greatest Personality of Planete Doc Film Festival, Poland

2011 Honorary International Ranger Award, The Thin Green Line Foundation and International Ranger Federation, Australia

2011 Inspirational International Award, The Inspiration Awards for Women, USA

2011 Grand Officer of the Order of Merit of the Italian Republic, presented by the President of the Republic's Counselor Magistrate Dr. Elio Berarducci

2012 Lifetime Achievement Award, The Observer Ethical Awards, UK

2012 Outstanding Harmony Award in Rio+20, World Harmony Foundation, Australia

2012 Anne Marrow Lindberg Award for Living with Grace and Distinction, Huffington Center for Aging, USA

2012 II Monito del Giardino international award, Italy

2012 AARP Inspire Award, USA

2013 Varner Vitality Lecture, Oakland University, Michigan, USA

2013 WildCare Environmental Award, California, USA

2013, Wyland Icon Award, USA

2014 Better Malaysia Foundation (BMF) Person of the Year Award, Kuala Lumpur, Malaysia

2014 Animal Defence and Anti-Vivisection Society, Person of the Year Award, British Columbia, Canada

2014 Distinguished Lecturer, the University of Iowa Lecture Committee, Iowa, USA

2014 Invercargill Vegan Society Award, Dunedin, New Zealand

2014 BAUM Award, Germany

2014 Look! World Achievement Award

2014 Green Prize Award, Santa Monica Public Library, USA

2014 Recognition of lifelong contributions to wildlife protection from MOTC, Taiwan

2014 World Technology Network (WTN) Award for Use of Technology in Policy, New York, USA

2014 President's Medal from the British Academy, London, UK

2014 Captain Planet Foundation Exemplar Award, Atlanta, GA, USA

2015 Asia Pacific Brand Foundation, The Brand Laureate Legendary Award, Malaysia

2015 Premi Internacional Catalunya Prize, Catalonia, Spain

2015 The Perfect World Foundation, Conservationist of the Year 2015, Stockholm, Sweden

2015 the Orangutan Republik Foundation, Pongo Environmental Award, Beverly Hills, CA, USA

2015 Wilton Krogman Award, Penn Museum at the University of Pennsylvania, Philadelphia, Penn., USA

2016 Global Thinker Lifetime Achievement Award, Foreign Policy Magazine and AARP, Washington, D.C., USA

2017 The DVF Lifetime Leadership Award, Diane von Furstenberg and The Diller-von Furstenberg Family Foundation, New York, New York, USA

2017 Ecovidrio Award, Spain

2017 Special Award presented to Dr. Jane Goodall In recognition of your outstanding work in the conservation of Chimpanzees in Tanzania – Ministry of Natural Resources and Tourism, Tanzania National Parks

2017 International Cosmos Prize for outstanding research and/or achievement which promotes “The Harmonious Coexistence between Nature and Mankind”

2017 CRDB Bank Trophy for dedication, hard work and confidence in conservation, Dar Es Salaam, Tanzania

2017 The Manhae Grand Prize for Practice, Gangwon Province, South Korea

2018 Visionary Influencer Award 2018, presented to Dr. Jane Goodall, Lifetime Achievement & Sunny Heart, Abu Dhabi, UAE

2018 United Religions Initiative-Africa Peace Award, in acknowledgment of Dr. Goodall’s extensive work on conservation and animal welfare issues, as well as her work promoting a culture of peace as a United Nations Messenger of Peace. Nairobi, Kenya

2018 Arco Adventure Award Day Special Prize, in acknowledgment of Dr. Goodall as a symbol of international environmentalism for her work protecting chimpanzees. Arco, Italy

2018 Global Green Icon Award, USA

2019 Maison-de- Mode Sustainable Style Award, USA

2020 Scientific Exploration Society Lifetime Achievement Award, USA

2020 Tang Prize in Sustainable Development, for her groundbreaking discovery in primatology that redefines human-animal relationship and for her lifelong unparalleled dedication to the conservation of Earth environment, Taiwan

2020 Lifetime Achievement Award, Greentech Festival Green Awards, Berlin, DE

2020 Nachhaltige Gestalter*innen Award for Dr. Goodall's unique contribution to sustainability

2020 Hans-Carl-von-Carlowitz-Sustainability Award, DE

2020 Humane Canada for Animal Welfare Leadership and Innovation Award, Presented to Dr. Jane Goodall, McGrand Lifetime Leadership in Animal Welfare

2021 Templeton Prize for harnessing the power of the sciences to explore the deepest questions of the universe and humankind’s place and purpose within it.

2021 The Otto Eckart Foundation Prix International Pour Les Enfants honoring personalities or institutions who have made an outstanding contribution to the well-being of children.

2021 Club 55 Lifetime Award, Germany

2021 Mercy for Animals Hope Award, Los Angeles, USA

2021 E. O. Wilson Living the Mission Award, Boston, USA

2021 Honorary Member of the International Union for Conservation of Nature (IUCN)

2022 DC Environmental Film Festival Champion Award, USA

2022 FemaleOneZero – Nomination to “40 Over 40” The World’s Most Inspiring Women

2022 Blue Water Institute’s Global Citizen Award, USA

2022 Visioneers Award, The Visioneers International Network, CA

2022 Anthem Awards Lifetime Achievement Award, USA

2022 Henry David Thoreau Prize for Literary Excellence in Nature Writing, USA

2022 Murie Spirit of Conservation Lifetime Achievement Award, USA

2022 International Women’s Forum Hall of Fame, USA

2022 Lifetime Achievement Award, the Oldies Award, UK

2022 Stephen Hawking Medal for Excellence in Scientific Writing, Starmus Foundation, UK

Publications

Books

1967 My Friends the Wild Chimpanzees. Washington, D.C.: National Geographic Society 1971

Innocent Killers (with H. van Lawick). Boston: Houghton Mifflin; London: Collins.

1971 In the Shadow of Man. Boston: Houghton Mifflin; London: Collins. Published in 48 languages.

1974 Solo by Jane van Lawick and Hugo van Lawick, published by Collins

1986 The Chimpanzees of Gombe: Patterns of Behavior. Boston: Bellknap Press of the Harvard University Press. Published also in Japanese and Russian. R.R. Hawkins Award for the Outstanding Technical, Scientific or Medical book of 1986, to Bellknap Press of Harvard University Press, Boston. The Wildlife Society (USA) Award for "Outstanding Publication in Wildlife Ecology and Management."

1990 Through a Window: My Thirty Years with the Chimpanzees of Gombe. London: Weidenfeld & Nicolson; Boston: Houghton Mifflin. Translated into more than 15 languages.

1991 Penguin edition, UK. American Library Association "Best" list among Nine Notable Books (Nonfiction) for 1991.

1993 Visions of Caliban (co-authored with Dale Peterson, Ph.D.). Boston: Houghton Mifflin. New York Times "Notable Book" for 1993. Library Journal "Best Sci-Tech Book" for 1993.

1999 Brutal Kinship (with Michael Nichols). New York: Aperture Foundation.

1999 Reason For Hope: A Spiritual Journey (with Phillip Berman). New York: Warner Books, Inc. Translated into more than 13 languages.

1999 40 Years At Gombe. New York: Stewart, Tabori, and Chang.

2000 Africa In My Blood (edited by Dale Peterson). New York: Houghton Mifflin Company.

2001 Beyond Innocence: An Autobiography in Letters, The Later Years (edited by Dale Peterson). New York: Houghton Mifflin Company.

2002 The Ten Trusts: What We Must Do To Care for the Animals We Love (with Marc Bekoff). San Francisco: Harper San Francisco.

2005 Harvest for Hope: A Guide to Mindful Eating (with Gary McAvoy and Gail Hudson). New York: Warner Books.

2009 Hope for Animals and Their World: How Endangered Species Are Being Rescued from the Brink (with Thane Maynard and Gail Hudson). New York: Grand Central Publishing.

2010 50 Years at Gombe. New York: Stewart, Tabori, and Chang.

2014 Seeds of Hope: Wisdom and Wonder from the World of Plants (with Gail Hudson). New York: Grand Central Publishing.

2015 The Jane Effect. Trinity University Press

2021 The Book of Hope: A Survival Guide to Trying Times (And Douglas Abrams with Gail Hudson). New York. Celadon Books

Children's Books

1972 Grub: The Bush Baby (with H. van Lawick). Boston: Houghton Mifflin.

1988 My Life with the Chimpanzees. New York: Byron Preiss Visual Publications, Inc.
Translated into French, Japanese and Chinese. Parenting's Reading-Magic Award for "Outstanding Book for Children," 1989.

1989 The Chimpanzee Family Book. Saxonville, MA: Picture Book Studio; Munich: Neugebauer Press; London: Picture Book Studio. Translated into more than 15 languages, including Japanese and Kiswahili. The UNICEF Award for the best children's book of 1989. Austrian state prize for best children's book of 1990.

1989 Jane Goodall's Animal World: Chimps. New York: Macmillan.

1989 Animal Family Series: Chimpanzee Family; Lion Family; Elephant Family; Zebra Family; Giraffe Family; Baboon Family; Hyena Family; Wildebeest Family. Toronto: Madison Marketing Ltd.

1994 With Love (illustrated by Alan Marks). New York / London: North-South Books.
Translated into German, French, Italian, and Japanese.

1999 Dr. White (illustrated by Julie Litty). New York: North-South Books.

2000 The Eagle & the Wren (illustrated by Alexander Reichstein). New York: NorthSouth Books.

2001 Chimpanzees I Love: Saving Their World and Ours. New York: Scholastic Press.

2004 Rickie and Henri: A True Story (with Alan Marks) New York: Penguin Young Readers Group.

2013 Dr. White (illustrated by Julie Litty) gift book size. Honk Kong: minedition

2014 The Eagle & the Wren (illustrated by Alexander Reichstein) gift book size. Hong Kong: Minedition

2014 With Love (illustrated by Alan Marks) gift book size. Hong Kong: minedition

2014 Jane Goodall The Chimpanzee Children of Gombe (with Michael Neugebauer).
Hong Kong: minedition

2015 Prayer for World Peace (with Michael Neugebauer). Hong Kong: minedition

2020 Pangolina. Hong Kong: Minedition

2021 The Book of Hope: A Survival Guide for Trying Times; Celadon Books

2022 Local Voices, Local Choices: The TACARE Approach; Esri Press

Films

1963 Miss Goodall and the Wild Chimpanzees, National Geographic Society.

1984 Among the Wild Chimpanzees, National Geographic Special.

1988 People of the Forest, with Hugo van Lawick.

1990 Chimpanzee Alert, in the Nature Watch Series, Central Television.

1990 Chimps, So Like Us, HBO film nominated for 1990 Academy Award.

1990 The Life and Legend of Jane Goodall, National Geographic Society.

1990 The Gombe Chimpanzees, Bavarian Television.

1995 Fifi's Boys, for the Natural World series for the BBC.

1995 My Life with the Wild Chimpanzees, National Geographic.

1998 Chimpanzee Diary for BBC2 Animal Zone.

1998 Animal Minds for BBC.

1999 Jane Goodall: Reason For Hope, PBS special produced by KTCA.

2001 Chimps R Us PBS special Scientific Frontiers.

2002 Jane Goodall's Wild Chimpanzees, in collaboration with Science North and
Science Museum of Minnesota.

2004 Jane Goodall's Return to Gombe, produced by Tigress Productions for Animal
Planet/Discovery Communications.

2004 Jane Goodall's State of the Great Ape, produced by Tigress Productions for Animal Planet/Discovery Communications.

2004 Jane Goodall - When Animals Talk, produced by Tigress Productions for Animal Planet/Discovery Communications.

2005 Jane Goodall's Heroes, produced by Creative Differences for Animal Planet/Discovery Communications.

2006 Almost Human, produced by Creative Differences for Animal Planet/ Discovery Communications

2010 Jane's Journey, produced by Animal Planet, CC Medien, NEOS Film and Sphinx Media

2012 Chasing Ice, directed by Jeff Orlowski

2014 Jane and Payne, produced by Boy Olmi and LSD Live (Dylan Williams)

2015 Racing Extinction, produced by Discovery and directed by Louie Psihoyos

2016 Time to Choose, directed by Charles Ferguson

2017 JANE, produced by National Geographic, directed by Brett Morgen

2020 Jane Goodall: The Hope, produced by National Geographic, directed by Elizabeth Leiter & Kim Woodard

Articles

1962 Nest building in a group of free-ranging chimpanzees. Ann. N.Y. Acad. Sci. 102: 455-467.

1963 Feeding behaviour of wild chimpanzees: a preliminary report. Symp. Zool. Soc. Lond. 10: 39-48.

1963 My life with the wild chimpanzees. National Geographic 124 (2):272-308.

1964 Tool-using and aimed throwing in a community of free-living chimpanzees. Nature. 201: 1264-1266.

1965 Chimpanzees of the Gombe Stream Reserve. In: I. DeVore (Ed). Primate Behaviour. New York: Holt, Rinehart and Winston.

1965 New discoveries among Africa's chimpanzees. National Geographic 128 (6): 802831.

1965 Infancy, childhood and adolescence in a group of wild chimpanzees. *Proc. Roy. Inst. Lond.*

1965 (with H. van Lawick). Use of tools by the Egyptian Vulture, *Neophron porenoptemus*. *Nature*. 212: 1468-1469.

1966 Mother-offspring relationships in chimpanzees. In: D. Morris (Ed). *Primate Ethology*. London: Weidenfeld & Nicolson. pp. 287-345.

1967 (with H. van Lawick). Tool-using bird, the Egyptian Vulture. *National Geographic* 133 (5): 631-651.

1968 Behaviour of free-living chimpanzees of the Gombe Stream Area. In: J.M. Cullen and C.G. Beer (Eds). *Anim. Behav. Monog. Vol. 1, Part 3*. London: Bailliere, Tindall, and Casell. pp. 165-311.

1968 Expressive movements and communication in free-ranging chimpanzees: a preliminary report. In: P. Jay (Ed). *Primates: Studies in Adaptation and Variability*. New York: Hold, Rinehart and Winston. pp. 313-374.

1969 Some aspects of reproductive behaviour in free-living chimpanzees. *Journ. Reprod. Fert.*

1970 Some aspects of mother-infant behaviour in wild chimpanzees. In: R. Schaffer (Ed). *Determinants of Infant Behaviour*. New York: John Wiley and Sons.

1970 The scratching rocks clan. *Animals*. 13: 401-407.

1970 Tool-using in Primates and other Vertebrates. In: D.S. Lehrman, R.A. Hinde, and E. Shaw (Eds). *Advances in the Study of Behaviour*, Vol. 3. New York and London: Academic Press. pp. 195-249.

1971 Some aspects of aggressive behaviour in a group of free-living chimpanzees. *Int. Soc. Sci. Journ.* 23 (1): 89-97.

1973 Baboons too use tools. *Science News* 103: 71-72.

1973 The behaviour of chimpanzees in their natural habitat. *Am. J. Psychiatry*. 130 (1): 112.

1973 (with H. van Lawick and C. Packer). Use of objects as tools in free-living baboons in the Gombe National Park, Tanzania. *Nature* 24: 212-213.

1973 Cultural elements in a chimpanzee community. In: W.W. Menzel (Ed). *Precultural Primate Behaviour*, Vol I. Karger: Fourth IPV Symposium Proceedings.

1975 Chimpanzees of Gombe National Park: 13 years of research. In: I. Eibesfeldt (Ed). Hominisation und Verhalten. Stuttgart: Gustav Fischer Verlag. pp. 74-136.

1975 The chimpanzee: a model for the behaviour of early man? In: V. Goodall (Ed). Quest for Man. London: Pall Mall Press. pp. 130-169.

1975 On the contribution of chimpanzee studies to understanding human origins. In: S.L. Isaac (Ed). Perspectives on Human Evolution, Vol. 3: Essays on East Africa and Human Origins--a tribute to the life's work of the late Louis Leakey.

1976 (with D.A. Hamburg). New evidence on the origins of human behaviour. In: D. Hamburg and K. Brodie (Eds). American Handbook of Psychiatry, Vol. 6, New Frontiers. New York: Basic Books.

1976 Continuities between chimpanzee and human behaviour. In: G.L Isaac and E.R. McGown, (Eds). Human Origins: Louis Leakey and the East African Evidence California: W.J. Benjamin Inc.

1976 (with D. Riss). Sleeping behaviour and associations in a group of captive chimpanzees.

Folia Primatol. 25: 1-11.

1977 Infant-killing and cannibalism in free-living chimpanzees. In: Folia Primatol. 28: 59-282.

1977 (with K. Morris). Competition for meat between chimpanzees and baboons of the Gombe National Park. Folia Primatol. 28: 109-121.

1977 (with D. Riss). The recent rise to the alpha rank in a population of free-living chimpanzees. Folia Primatol. 27: 134-151.

1978 Chimp Killings: Is it the Man in them? Sci News 113: 276.

1979 (with A. Bandora, E. Bergmann, C. Busse, H. Matama, E. Mpongo, A. Pierce, D. Riss). Inter-community interactions in the chimpanzee population of the Gombe National Park. In: D.A. Hamburg and E.R. McGown (Eds). The Great Apes. Menlo Park, California: Benjamin/Cummings. pp. 13-53.

1979 Life and Death at Gombe. National Geographic 155 (5): 592-621.

1980 (with J. Athumani). An observed birth in a free-living chimpanzee in Gombe National Park, Tanzania. Primates. 21 (4): 545-549.

1982 Order without law. Journal of Social and Biological Structures 5: 353-360.

- 1983 Population dynamics during a 15 year period in one community of free-living chimpanzees in the Gombe National Park, Tanzania. *Zeitschrift fur Tierpsychologie* 61: 160.
- 1983 (with T. Nishida, R.W. Wrangham, and S. Uehara.) Local differences in plantfeeding habits of chimpanzees between the Mahale Mountains and Gombe National Park, Tanzania. *J. Human Evol.* 12: 467-480.
- 1984 (with D.A. Collins, C.D. Busse and J. Goodall. 1984. Infanticide in two populations of Savanna Baboons. In: G. Hausfater and S.B. Hrdy (Eds). *Infanticide: Comparative and Evolutionary Perspectives*. New York: Aldine Publishing Company. pp. 193-216.
- 1984 The nature of the mother-child bond and the influence of family on the social development of free-living chimpanzees. In: N. Kobayashi and T.B. Brazelton (Eds). *The Growing Child in Family and Society*. Tokyo: University of Tokyo Press. pp. 47-66.
- 1985 Chapter. In: P.L. Berman (Ed). *The Courage of Conviction*. New York: Ballantine Books.
- 1985 (with H. Kummer, H). Conditions of innovative behaviour in primates. *Phil. Trans. R. Soc. Lond.* 308: 205-214.
- 1986 Mountain Warrior. *Omni*. May 1986, 132-143.
- 1986 Social rejection, exclusion, and shunning among the Gombe chimpanzees. Special issue: Ostracism: A social and biological phenomenon. *Eth. and Sociobiol.* 17 (3-4): 227-236.
- 1987 A Plea for the Chimps. *The New York Sunday Times Magazine*. May 17, 1987. pp. 108-110.
- 1987 A Plea for the Chimpanzees. *Am. Sci.* 75 (6): 574-577.
- 1988 Ethical concerns in the use of animals as donors. *Xenograft* 25: Proceedings of the International Congress, *Xenograft* 25. Elsevier Science Publishers. pp. 335-349.
- 1988 (with A. Prince, J. Moor-Jankowski, J. Eichberg, H. Schellekens, R. Mauler, and M. Girard) Chimpanzees and AIDS research. *Nature*. 333 (9): 513.
- 1989 The Chimpanzee: Man's closest relative in danger. In: *Kakakuona*, the magazine of the Tanzania Wildlife Protection Fund. 1 (1): 5-9.
- 1989 (with A. Prince, B. Brotman, H. Dienske, H. Schellekens, and J. Eichberg). Appropriate conditions for maintenance of chimpanzees in studies with blood-borne viruses: an epidemiologic and psychosocial perspective. *J. Med. Primatol.* 18: 27-42.

- 1989 (with R.W. Wrangham). Chimpanzee use of medicinal leaves. In P. Heltne and L. Marquardt (Eds) *Understanding Chimpanzees*, pp. 22-37. Cambridge: Harvard University Press.
- 1990 (with A.L. Zihlman, and M.E. Morbeck). Skeletal biology and individual life history of Gombe chimpanzees. *J. Zool., London* 221: 37-61.
- 1990 Gombe: Highlights and Current Research. In: P.G. Heltne and L.A. Marquard (Eds). *Understanding Chimpanzees*. Boston: Harvard University Press. pp. 2-21.
- 1990 ChimpanZoo. In: P.G. Heltne and L.A. Marquard (Eds). *Understanding Chimpanzees*. Boston: Harvard University Press. pp. 148-150.
- 1990 Area Status Report: Tanzania. In: P.G. Heltne and L.A. Marquard (Eds). *Understanding Chimpanzees*. Boston: Harvard University Press. pp. 360-361.
- 1990 Respect for Life. In: C. Fadiman (Ed). *Living Philosophies*. New York: Doubleday. pp. 81-88.
- 1992 Psychosocial needs of laboratory chimpanzees. *Proceedings of the Symposium on Biomedical Research on Primates*.
- 1993 Unusual violence surrounding the rise to alpha rank in the Gombe chimpanzee community. In: *Proc. XIIIth Cong. IPS*.
- 1993 (with J. Wallis). Anogenital swelling in pregnant chimpanzees of Gombe National Park. *Am. J. Primatol.* 31(2): 89-98.
- 1994 (with P.A. Morin, J.J. Moore, R. Chakraborty, L. Jin, and D.S. Woodruff). Kin selection, social structure, gene flow and the evolution of chimpanzees. *Science* 265: 1193-1201.
- 1994 (with C.B. Stanford, Wallis, J., Matama, H.) Patterns of Predation by chimpanzees on red colobus monkeys in Gombe National Park, 1982-1991. *American Journal of Physical Anthropology*, 94 (2) 213-228.
- 1994 (with C.B. Stanford, Wallis, J, Mpongo, E) Hunting decisions in wild chimpanzees. *Behaviour*, 131, 1-18.
- 1995 (with C. Packer, D.A. Collins, and A. Sindimwo). Reproductive constraints on aggressive competition in female baboons. *Nature* 373: 60-63.
- 1995 Why is it unethical to use chimpanzees in the laboratory? *ATLA*. 23: 615-620.
- 1995 Chimpanzees and others at play. *ReVision* 17 (4): 14-20.

1997 (with A. Pusey and J. Williams). The influence of dominance rank on the reproductive success of female chimpanzees. *Science*. 277: 828-831.

1999 (with A. Whiten, McGew, W.C., Nishida, T., Reynolds, V., Sugiyama, Y. Tutin, C.E.G., Wrangham, R.W., Boesch, C.) Cultures in chimpanzees. *Nature* 399, 682-5.

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2001 (with Bekoff, M.). The view from Japan. *Nature* 411, 995-996.

2001 (with Mario L. Santiago, Cynthia M. Rodenburg, Shadrack Kamenya et. al.) Noninvasive Detection and Molecular Identification at Simian Immunodeficiency Virus in Wild-living Chimpanzees. *Nature*.

2001 (with A. Whiten, McGew, W.C., Nishida, T., Reynolds, V., Sugiyama, Y. Tutin, C.E.G., Wrangham, R.W., Boesch, C.) Charting cultural variation in chimpanzees. *Behavior* 138, 1489-1525.

2001 (with Constable, J., Ashley, M., & Pusey, A.) Noninvasive paternity assignment in Gombe chimpanzees. *Molecular. Ecology*, 10:1279-1300.

2001 (with Hill, K., Goodall, J, Pusey, A., Williams, J., Boesch, C., Boesch, H., & Wrangham, R.W.) Chimpanzee mortality in the wild. *Journal of Human Evolution*. 40:437-450.

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EXHIBIT 2

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DECLARATION OF DR. WILLIAM MCGREW

I, William McGrew, Ph.D., declare as follows:

Introduction and Qualifications

1. My name is William C. McGrew. I reside and work in Fife, Scotland. I hold a DPhil. (1970) from the University of Oxford (England) and PhDs from the University of Stirling (Scotland) in 1990 and the University of Cambridge (England) in 2009. My degrees are in anthropology, psychology, and zoology. I am Emeritus Professor of Evolutionary Primatology, Division of Biological Anthropology, Department of Archaeology and Anthropology, University of Cambridge (England). I am Honorary Professor, School of Psychology & Neuroscience, University of St Andrews (Scotland). I previously worked at Miami University (Ohio), Earlham College (Indiana), University of Stirling (Scotland), and University of Edinburgh (Scotland).
2. I submit this Declaration in support of the Nonhuman Rights Project, Inc.'s complaint for a writ of *habeas corpus* regarding the captive chimpanzees at DeYoung Family Zoo. I am a non-party to this proceeding.
3. My specialization is in the great apes, and especially the study of the behavior and ecology of chimpanzees. I did field research on chimpanzees and bonobos (which are sister species) from 1972-2012, in six sub-Saharan African countries. These studies spanned the species' range from East Africa (Tanzania, Uganda) to Central Africa (Democratic Republic of Congo, Gabon) to West Africa (Guinea, Senegal). I observed wild chimpanzees at more study sites (N=13) than any other scientist, so far as I know.
4. I am an elected Fellow of the American Association for the Advancement of Science and of the Royal Society of Edinburgh. I am a recipient of the Howells

Prize (American Anthropological Association), Prix Delwart (Royal Academy of Sciences, Belgium), and Osman Hill Medal (Primate Society of Great Britain). I held visiting academic appointments at the University of California-Berkeley, University of New Mexico, University of North Carolina-Charlotte, Tulane University, as well as the Collegium Budapest (Hungary), College de France (Paris), Hanse-Wissenschaftskolleg (Delmenhorst, Germany).

5. I have done research in primatology since 1972, specialising in the great apes. I did field research on chimpanzees and bonobos over 40 years, across sub-Saharan Africa. I did behavioral research on captive chimpanzees in laboratories (Delta Primate Research Center), sanctuaries (Chimp Haven), and zoological gardens (Royal Zoological Society of Scotland, Edinburgh Zoo).
6. I served on the IUCN-SSC Primate Specialist Group, Africa and Great Apes, and the Scientific Board, International Primate Protection League. I served on the Board of Directors of Chimp Haven, Inc., and the Council and Executive Committee of the Royal Zoological Society of Scotland. I served on the editorial boards of the following scientific journals: *American Journal of Primatology* (1991-1999), *Folia Primatologica* (1989-2009), *International Journal of Primatology* (1995-2000), and *Primates* (1985-2022).
7. I have written or co-edited 11 books, eight of which are relevant here: *Chimpanzee Material Culture* (1992, Cambridge University Press); *Topics in Primatology, Vol. 1. Human Origins* (1992, University of Tokyo Press); *Chimpanzee Cultures* (1994, Harvard University Press); *Great Ape Societies* (1996, Cambridge University Press); *The Cultured Chimpanzee* (2004, Cambridge University Press); *Chimpanzee Behavior in the Wild* (2010, Springer); *The Evolution of Human Handedness* (2013, Wiley); and *Chasing After Chimpanzees*

(2021, Memoir Books). Some have been translated into other languages, such as Italian, Japanese, Slovenian, Turkish.

8. I have published 232 articles and or book chapters on the behavior, ecology, welfare, or conservation of chimpanzees and other species of nonhuman primates, including 131 peer-reviewed articles in the world's most-cited scientific journals: *Nature*, *Science*, *Proceedings of the National Academy of Sciences USA*, *Proceedings of the Royal Society*, *Philosophical Transactions of the Royal Society*, *Nature Ecology and Evolution*, *Trends in Ecology and Evolution*, *Evolutionary Anthropology*, *American Journal of Physical Anthropology*, *Current Anthropology*, *Animal Behaviour*, *Animal Cognition*, *Trends in Cognitive Science*, *Current Biology*, *Journal of Human Evolution*. I also have published 46 book chapters, as well as articles in more specialised academic periodicals and in the popular press.
9. My publications have covered 16 species of nonhuman primates, from common marmosets to gorillas, but most have been on chimpanzees. Specific topics on chimpanzees in these publications include: culture, tool-use, diet, sexuality, sex differences, birth, predation, parasites, social organization, ranging, kinship, parenthood, environmental enrichment, rehabilitation, food-sharing, mating systems, handedness, seasonality, genetics, bipedality, activity budget, psychopathology, plant ecology, archaeology, ethanol ingestion, and insectivory. According to Google Scholar, my scientific publications have been cited more than 25,000 times.
10. I regularly gave invited lectures and took part in international symposia on primatology. Such activities averaged about four per year. I also gave many other research presentations at universities or at regional, national or international

conferences. The lectures and symposia took place in: Austria, Belgium, Brazil, Canada, Chile, Costa Rica, England, France, Germany, Guinea, Indonesia, Italy, Japan, Mexico, Portugal, Romania, Russia, Scotland, Singapore, South Africa, Spain, Switzerland, and USA. My Curriculum Vitae fully sets forth my educational background and experience and is annexed hereto as **Exhibit A**.

Basis for Opinions

11. The opinions I express in this Declaration are based on my professional knowledge, education, training, and four decades of research on chimpanzees. Also, they rely on my knowledge of published literature in primatology, as reported in periodicals and books considered to be authoritative in this field of science. Many of these publications were written by myself and with colleagues and students with whom I worked for many years. A full reference list of the publications cited herein is annexed hereto as **Exhibit B**.

Opinions

12. The chimpanzee, *Pan troglodytes* (and its sister species, the bonobo), is more closely related to human beings (*Homo sapiens*) than it is to the other African ape, the gorilla. Of all living organisms, the great apes are the ones with whom we last shared a common ancestor, only a few million years ago. Thus, the chimpanzee is humankind's closest living relative, and *vice versa* (Goodman 1999).
13. Chimpanzees resemble humans in many genetic, physiological, anatomical and behavioral ways. For example, their blood is interchangeable with human blood, such that a transfusion from a human being could save a chimpanzee's life or vice versa, so long as the blood groups are properly matched (Segurel *et al.* 2012). The volume of the chimpanzee brain is comparable in size to that of the most recent (but extinct) member of the human evolutionary lineage, *Homo floresiensis*, which lived as recently as 18,000 years ago (Brown *et al.* 2004). Chimpanzee

performance on intelligence tests is equivalent to that of 3-4 year-old human children, especially in physical intelligence, such as object manipulation (Matsuzawa *et al.* 2006; Mendes *et al.* 2018).

14. Like human beings, chimpanzees are autonomous beings who possess advanced cognitive abilities, demonstrated by the evidence in several areas discussed below. 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 analyzing their behavior.

A. Tool making and tool use

15. One of the most important indicators of intelligence in a species, including chimpanzees, is tool making and use. Tool making implies complex problem-solving skills and an understanding of means-ends relations and causation. That is, it requires making choices, often in a specific sequence, toward a predefined goal, which is a key aspect of intentional action (Lamon *et al.* 2018). Chimpanzees demonstrate intelligent tool making and use in both nature and captivity. In nature, they make and use tools of vegetation and stone in daily life to hunt, forage, fight, play, communicate, and in courtship, hygiene and socializing (McGrew 2010). Tool making and use are universal in chimpanzees, being found in all wild populations studied over the long-term.
16. Chimpanzees make and use *complex* tools that require them to utilize two or more objects at the same time. An example is using one stone as a hammer and another as an anvil for cracking hard nuts (Carvalho *et al.* 2009). Chimpanzees also make

compound tools, in which two or more components are combined into a single working unit. The wedge stone, which is inserted under an anvil in order to level its working surface, increases the efficiency of nut-cracking (Matsuzawa 1991). The leaf sponge, in which several fresh leaves are compressed into a single absorbent mass, enables drinking water to be extracted from tree holes (Sousa *et al.* 2009). *Composite* tools such as these reflect the fact that chimpanzees have the mental capacity to combine components in appropriate ways to achieve a goal.

17. Each group of chimpanzees makes and uses a unique combination of tools known as a *tool kit* (McGrew *et al.* 1979). It typically comprises up to 20 different tools that perform various functions in daily life. These include tools used for extracting and processing food, such as sticks to open termite mounds, probes to skewer small mammals (Pruetz *et al.* 2015), twigs to extract marrow from bones of prey, stone hammer and anvil to crack nuts, etc. It even extends to using plants in self-medication for illness or injury (Huffman 1997).
18. Many chimpanzee tool kits are not preserved in the archaeological record because they comprise organic material that decompose over time, such as leaves, bark, sticks, etc. (Pascual-Garrido & Almeida-Warren 2017). However, chimpanzee stone tools such as hammers and anvils are preserved just as with human lithics (Haslam *et al.* 2017). Chimpanzee stone artefacts have been excavated from sites in West Africa, indicating a ‘Stone Age’ that dates to at least 4300 years ago (Mercader *et al.* 2007). The age of these tools suggests that in at least one population, chimpanzee tool-making has been passed down through 225 generations (Boesch 2012). Therefore chimpanzee artefacts can be compared with early human ones, as indicators of their comparable mental abilities (Harmand & Arroyo 2023).

19. Chimpanzees also make and use tools for personal comfort and hygiene, including to clean the body; they use stems to comb through hair, twigs to clear their nostrils, and leafy fans to repel insects, etc. For sleeping, chimpanzees use special ways of bending branches and twigs to make a comfortable bed in the trees or on the ground (Koops *et al.* 2012). Tool kits vary from group to group, are passed down generationally, and occur in a wide range of habitats, from savanna to rain forest.
20. Tool-making is not genetically determined or fixed, that is, it is not ‘hard-wired’ behaviour or simple reflex. Rather, it requires the same mental abilities that underlie human culture: Observing others and acquiring skills about how to do things (Manrique *et al.* 2023). Each chimpanzee group develops its own culture, which is not static. It evolves via invention, emigration, and immigration (van Schaik 2012). Decades of field research show that there are many unique chimpanzee cultures spread across sub-Saharan African, from Senegal to Tanzania (Whiten *et al.* 1999, McGrew 2004).
21. Chimpanzees also use *tool sets*, which entail using two or more tools in obligate sequence to achieve a single goal (Sanz *et al.* 2004). They have been known to use a set of five objects—pounder, perforator, enlarger, collector, and swab—to obtain honey (Boesch *et al.* 2009). This sophisticated technology involves choosing the appropriate objects for a hierarchical sequence leading to goal achievement. Tool sets are a hallmark of intentionality, mental representation, and opportunism.

B. Culture

22. *Culture* is socially acquired (learned by watching others), normative (all individuals take part), and collective (characteristic of a community) (McGrew 2004). Thus, culture is a set of behaviors transmitted by observational learning,

which becomes characteristic of a group or population, resulting in societal traditions. Culture is a hallmark of higher intelligence, based on several complex cognitive capacities: Imitation (direct mimicking of bodily actions), emulation (attending to the results of another's actions, then achieving results in an alternative, often better, way), and innovation (inventing new techniques of doing things, often by combining elements). Chimpanzees show all these abilities (McGrew 1992).

23. In nature, chimpanzees show cultural traditions that meet the same criteria used to identify human culture. Three general cultural domains are found in both humans and chimpanzees: 1) *material culture*, as shown above; 2) *social culture*, that is, behavior that allows individuals to develop and benefit from social living, and 3) *symbolic culture*, which comprises specific communicative gestures and vocalizations that arbitrarily reflect particular intentions (Graham & Hobaiter 2023; McGrew 2011).

24. Chimpanzee social culture includes many unusual traditions. Jane Goodall (1986a) reported the 'waterfall display' in Gombe National Park in Tanzania, in which male chimpanzees show vigorous displays in exaggerated, rhythmic movements before a spectacular waterfall. For 10 minutes or more, they pick up and throw rocks, and branches, leap between hanging vines, and swing over the streambed. The Gombe chimpanzees also perform a 'rain dance', a slow and deliberate pattern of bipedal locomotory display at the start of a rainstorm (Goodall 1967). A striking social custom is the 'grooming hand-clasp', in which two chimpanzees grip each other's hand, raise their arms overhead, and groom each other with the other hand. This custom was first observed in the Mahale

Mountains in Tanzania (McGrew & Tutin 1978) and occurs with some variation across populations (Nakamura & Uehara 2004; van Leeuwen & Hoppitt 2023).

25. Comparisons of human and chimpanzee cultures reveal that similarities are underwritten by a common set of mental abilities (Horner & Whiten 2005; Whiten *et al.* 2009). Studies show that chimpanzees copy methods used by others to manipulate objects and to interact with others (Hirata *et al.* 2000; Gibson *et al.* 2023). True imitation is an important indicator of self-awareness, because it suggests that an individual has a sense of its own body and how it corresponds to another, so they can accommodate their movements to the other's actions (Hirata & Murimara 2000). Such precise mimicry of the actions of others makes use of the consequences to achieve a goal (Goldsborough *et al.* 2021). Chimpanzees can imitate other chimpanzees (or humans), using an exact sequence of three actions, in order to open a box to obtain a treat (Whiten *et al.* 1996). Not only do chimpanzees imitate, but they know when they are being imitated, responding just like human toddlers (Haun & Call 2008). When being imitated, both chimpanzees and young humans tend to replicate the other's behavior. The process, 'contingency checking', is another indicator of self-awareness (Engelmann *et al.* 2023). Chimpanzees also are capable of 'deferred imitation', that is, copying actions that they have seen in the past (Bering *et al.* 2000, Marshall-Pescini & Whiten 2008). Deferred imitation relies on even more sophisticated cognitive capacities than direct imitation, as it depends on memory skills.
26. All the capacities of imitation and emulation are necessary for *cumulative cultural evolution*. This specific kind of culture is found in humans and chimpanzees and involves progressive building upon preceding customs (Yamamoto *et al.* 2013). Moreover, chimpanzees, like humans, tend to be social conformists (Whiten *et al.*

2005), which allows them to retain customs within groups. Chimpanzees and humans show striking similarities in mentality via observational learning, copying, decision-making, memory, and innovation cumulative cultural evolution.

27. Chimpanzee social life is cooperative (Feldman *et al.* 2021). They engage in collaborative hunting, in which different individual hunters adopt different roles that increase the chances of collective success in the hunt (Boesch 2012). Males cooperate in territorial defence, when they engage in repelling boundary incursions. Encounters with neighbouring males may be fatal, so such solidarity may have life or death consequences (Mitani *et al.* 2010). These types of behavior reflect a purposeful and well-coordinated society.
28. Chimpanzees appear to have moral inclinations and levels of moral agency, that is, they behave in ways that, if we saw the same thing in humans, we would interpret as a reflection of self-conscious, moral imperatives. They ostracize by rejecting, excluding and shunning individuals who violate social norms (Goodall 1986b; Nishida *et al.* 1995). They intervene impartially in third-party violence that is disruptive of group life, which reflects community concern (von Rohr *et al.* 2012). They respond negatively to inequitable situations, such as when offered lower rewards when companions are receiving higher ones (Brosnan *et al.* 2005). When given a chance to play economic games (e.g. Ultimatum Game), they spontaneously make fair offers, even when not obliged to do so (Brosnan *et al.* 2013; Horner *et al.* 2011; Proctor *et al.* 2013).

C. Duties and Responsibilities

29. Chimpanzees assume duties and responsibilities. Chimpanzee mothers show a degree of duty of care to the offspring that rivals humans. As single mothers, they feed, protect, carry, shelter, and train their offspring for an average of 5.5 years,

from birth to weaning (e.g. Musgrave *et al.* 2016). After weaning, chimpanzee mothers continue to groom, support and cooperate with their offspring for the rest of their lives, even into the adulthood of their offspring and the old age of the mothers (Goodall 1986a). Young female chimpanzees practice for their future maternal behavior by using sticks as ‘dolls’, in a form of symbolic play (Kahlenberg & Wrangham 2010).

30. Familial duties are not restricted to mothers. Maternal siblings of both sexes supplement their mother, using similar caregiving behaviors. This preferential treatment endures throughout their lives; adult brothers work together as allies when striving to rise in the community’s dominance hierarchy (Riss & Goodall 1977). In female kinship lineages, patterns of familial duties extend through three generations, such that grandmothers participate in the upbringing of their grandchildren (Goodall 1986a).
31. Duties of care extend beyond kinship. A chimpanzee infant orphaned by the death of its mother may be adopted by others to whom it is not related (Boesch *et al.* 2010). Such a foster parent need not be female, or even an adult. Adopted orphans are more likely to survive and thrive, while unadopted infants below the age of weaning almost always perish. Such bonds may last a lifetime, even between unrelated males in adulthood, as expressed in sustained grooming, the currency of chimpanzee social life (Mitani 2009).
32. Duties and responsibilities extend beyond the family (lineage) into the realm of the community, which is the basic social unit of chimpanzees (van Leeuwen *et al.* 2021). Chimpanzees defend territories collectively, unlike the individual territories of most animals; they must work together to defend themselves and their resources against their neighbors. Relations between communities are hostile

to the point of extermination, so that stronger communities may displace weaker ones, resulting in loss of resources and reproductive partners (Mitani *et al.* 2010).

33. To maintain territorial integrity, males cooperate regularly to patrol the boundaries of their territory (Wilson *et al.* 2014). If their territory is invaded, they display together against the intruders, or if necessary, attack them. This duty is essential, and numbers count. In a border skirmish, a male deserted by comrades would perish, while a united group may prevail and win rewards. Such patrols are done cautiously and silently; a male who makes any noise may give away his colleagues. What makes this shared responsibility so impressive is that the same males whose lives depend on one another in the patrol will later compete robustly with one another over access to sexually receptive females. They somehow resolve the contradictions involved in having conflicting interests in different contexts (Goodall 1986a). This achievement implies mutual recognition of shared responsibilities (Gomes & Boesch 2011).
34. Another chimpanzee universal that necessarily entails duties and responsibilities is participation in a hierarchy of social dominance. Males rank-order themselves from alpha (top) to omega (bottom) in linear structure (Goodall 1986a). The advantages of high rank versus the disadvantages of low rank are clear. More dominant individuals gain more resources and mates. Why do low-rankers take part in the system at all? Why not just withdraw? Two reasons stand out: It is better to be low-ranking in a group than to be unranked in isolation. But there are costs as well as benefits to maintaining high rank, which low-rankers avoid.
35. One of the costs of alpha status is the duty to exercise 'policing' powers in the community (Goodall 1986a). The alpha-male's role includes a range of time-and energy-sapping activities, such as intervening in disputes between others, thus

maintaining community integrity and preventing injury. He may oversee the distribution of prized resources, such as meat, after a successful hunt. When crossing roads, high-ranking males lead the way by being vigilant for traffic, and bring up the rear, ensuring that others are not left behind (Hockings *et al.* 2006).

36. One of the most impressive examples of collective community action sometimes occurs after the death of a group member (Anderson 2011). Others may perform what amounts to a funeral ceremony, or wake. They congregate around the corpse, groom and test it for viability, seeming to seek to arouse it. Then, as if accepting that death has occurred, they maintain a silent vigil that may last for hours. This collective action occurs both in nature and in captivity (Anderson *et al.* 2010). There is no obvious material pay-off to the individuals who join in.
37. Chimpanzees show behavior that seems lawful and rule-governed (von Rohr *et al.* 2015). Goodall (1986a) cited many examples of behavioral regularity that reflected the maintenance of social order: Adult males being protective of infants, dominant individuals breaking up fights, adult kin avoiding incest, etc. Sometimes there is specific, targeted ostracism of individuals who violate norms, such as a young male who dis-respected higher-ranking males, which led to fatal punishment (Nishida *et al.* 1995).
38. Another example of rule-governed social interaction is systematic, long-term reciprocity of favors or benefits among group members. Like-for-like social grooming is a simple example, but a more complex form is the exchange of differing goods or services. For example, if I give you prized food, then later you will favor me as a mate (Gomes & Boesch 2009). Or, if you support my aggressive attempts to rise in dominance, then I will allow you access to females

for mating (Duffy *et al.* 2007). Such arrangements only work in the long term, over years, if participants assume and carry out obligations offered and accepted.

39. Based on my 40 years (1972-2012) of observing wild chimpanzees, I believe that chimpanzees understand and carry out duties and responsibilities to their peers. They knowingly assume obligations and honor them. Such behavior is essential for maintenance of chimpanzee societies. In total, the evidence passes the 'as if' test, that is, when we see such behavior by humans and we credit it accordingly, then we should do the same with our nearest living relatives, chimpanzees.

Conclusion

40. The rich and complex life of chimpanzees in the wild is not possible in captivity, but efforts can be made to offer captive apes as much opportunity as possible to live good and happy lives (Pruetz & McGrew 2001). Anything short of that entails misery, even in the best zoos (Birkett & Newton-Fisher 2011). Captive facilities and practices vary immensely, but the best conditions are found in sanctuaries, which are basically retirement homes (Feliu *et al.* 2022). No chimpanzee should be kept otherwise. The chimpanzees confined at the DeYoung Family Zoo should be relocated to a chimpanzee sanctuary accredited by the Global Federation of Animal Sanctuaries so that they can exercise their autonomy and have their complex needs met.

I declare under penalty of perjury under the laws of the state of Michigan that the foregoing is true and correct, and that I am physically located outside the geographic boundaries of the United States, Puerto Rico, the United States Virgin Islands, and any territory or insular possession subject to the jurisdiction of the United States.

Executed on

22 day of August, 2023
(date) (month)

St. Andrews, Scotland
(city or other location, and state)

United Kingdom
(country)

William McGrew, Ph.D


(signature)

EXHIBIT A

RECEIVED by MCOA 4/23/2024 9:03:40 AM

Honorary Professor
School of Psychology and Neuroscience
University of St Andrews
Email: wcm2@st-andrews.ac.uk

Education

- 2009 Ph.D. (by incorporation) in Biological Anthropology, University of Cambridge, England
- 1990 Ph.D. in Social Anthropology, University of Stirling, Stirling, Scotland
 Thesis: *Chimpanzee Material Culture: Implications for Human Evolution*
- 1970 D.Phil. in Psychology, University of Oxford, Oxford, England
 Thesis: *An Ethological Study of Social Behaviour in Preschool Children*
- 1965 B.S. (with Special Distinction) in Zoology, University of Oklahoma, Norman, USA

Awards and Honours

- 2022 *Primates* Social Impact Award
- 2012 Senior Fellow, McDonald Institute for Archaeological Research, Cambridge
- 2010 Distinguished Alumni Award, College of Arts and Sciences, University of Oklahoma
- 2008 Osman Hill Medal, Primate Society of Great Britain
- 2005 Fellow, American Association for the Advancement of Science, USA
- 2003 Corresponding Fellow, Royal Society of Edinburgh, Scotland
- 1998 Prix Delwart, for Human Ethology and Cultural Anthropology, Fondation Jean-Marie Delwart
 and Royal Academy of Sciences of Belgium (\$10,000)
- 1996 W.W. Howells Book Prize in Biological Anthropology, American Anthropological
 Association
- 1995 Outstanding Research Award, Center for Research into the Anthropological Foundations of
 Technology, and Leighton A. Wilkie Memorial Lecture, Indiana University

Professional Training and Employment

2017-	Honorary Professor, School of Psychology and Neuroscience, University of St Andrews
2011-	Emeritus Professor, University of Cambridge
2010	Visiting Fellow, Hanse-Wissenschaftskolleg, Delmenhurst, Germany
2009-11	Professor of Evolutionary Primatology, University of Cambridge
2005-09	Lecturer in Biological Anthropology, University of Cambridge
2008-2016	Fellow, Corpus Christi College, Cambridge
2005	Bye-Fellow, Downing College, Cambridge
2003	Fellow, Collegium Budapest, Hungary
2003	Visiting Bye-Fellow, Selwyn College, and Visiting Research Fellow, Leverhulme Centre for Human Evolutionary Studies, University of Cambridge
2001	Russell Trust Senior Research Fellow, School of Psychology, University of St Andrews
2001	Visiting Professor, Ecole des Hautes Etudes en Sciences Sociales, College de France, Paris
1994-2005	Professor, Depts. of Anthropology and Zoology, Miami University (Ohio)
1994	Visiting Professor, Dept. of Anthropology, University of California, Berkeley
1993-94	Wiepking Distinguished Professor, Depts. of Sociology & Anthropology, Psychology, and Zoology, Miami University
1993	Visiting Faculty Member, Dept. of Biology, Earlham College, Richmond, Indiana
1989-92	Reader in Psychology, University of Stirling
1986	Visiting Faculty Member, Depts. of Anthropology and Biology University of New Mexico, Albuquerque
1982	Nuffield Foundation Social Science Research Fellow
1981-89	Senior Lecturer in Psychology, University of Stirling
1980	Visiting Faculty Member, Dept. of Psychology, University of North Carolina at Charlotte
1974-81	Lecturer in Psychology, University of Stirling
1972-73	Research Associate, Dept. of Psychiatry and Behavioral Sciences Stanford University, and Gombe Stream Research Centre, Kigoma, Tanzania

1972	Visiting Investigator, Delta Regional Primate Research Center Tulane University, Louisiana
1971	Teaching Assistant, Wenner-Gren Foundation Field School in Primatology Caribbean Primate Research Center, Cayo Santiago, Puerto Rico
1970-71	SSRC Postdoctoral Research Associate, Dept. of Psychology University of Edinburgh, Scotland
1969-70	National Institutes of Mental Health Postdoctoral Fellow Dept. of Psychology, University of Edinburgh
1968-69	Population Council Fellow, Dept. of Psychology, University of Edinburgh
1965-68	Rhodes Scholar, University of Oxford, Inst. of Experimental Psychology (66-68), Dept. of Zoology (65-66)

Professional Societies (Offices Held)

American Association for the Advancement of Science Electorate Nominating Committee, Anthropology	2001-2004
Chimp Haven, Board of Directors	1999-2005
International Primate Protection League, Scientific Advisory Board	1977-
International Society for Human Ethology, Board of Trustees	1978-1982, 2005-2014
Primate Specialist Group-Africa	1985-
IUCN-SSC Primate Special Group, Sub. Comm. on Great Apes	2004-2016
Primate Society of Great Britain, Council	1985-1988
Working Party on Conservation	1979-1983
Royal Anthropological Institute, Council	1990-1992
Committee on Biological & Social Anthropology	1988-1991
Royal Zoological Society of Scotland, Council	1974-1978; 1990-1992
Executive Committee	1975
Animal Health and Management Committee	1974-1981

Editorial Boards

<i>American Journal of Primatology</i> , Consulting Editor	1991-1999
<i>Carnivore</i>	1978-1983
<i>Ethology and Sociobiology</i> , European Editor	1984-1992
Editorial Board	1994-1996
<i>Folia Primatologica</i>	1989-2009
<i>Human Ethology Newsletter</i> , Reviews Co-Editor	1982-1986
<i>Human Evolution</i>	1994-
<i>Human Nature</i>	1990-1996
<i>International Journal of Primatology</i>	1995-2000
<i>Journal of Human Evolution</i> , Assoc. Editor	1983, 1992-1995
<i>Man</i>	1987-1992
<i>Pan Africa News</i> , Assoc. Editor	1997-

Reviewing of Grant Applications/Book Proposals/Manuscripts (cumulative)

Review Panel, Individual Research Grants, Wenner-Gren Foundation for Anthropological Research, 2004-2005
 Alexander von Humboldt Foundation, Association for the Study of Animal Behaviour, Bonobo Protection Fund, Cambridge University Press, Canada Council, H.F. Guggenheim Foundation, Harvard University Press, Japan Society for the Promotion of Science, L.S.B. Leakey Foundation, Leverhulme Trust, Charles & Anna Morrow Lindbergh Foundation, National Geographic Society, National Science Foundation (Anthropol., Psychobiol.), Primate Conservation Inc., Princeton University Press, Royal Anthropological Institute, School of American Research Press, Science & Engineering Research Council, Templeton Foundation, W.H. Freeman, Wenner-Gren Foundation for Anthropological Research

Reviewing of Journal Manuscripts (cumulative)

African Journal of Ecology, American Journal of Primatology, American Journal of Physical Anthropology, American Naturalist, Animal Behaviour, Animal Welfare, Annals of Tropical Medicine & Hygiene, Behavioral and Brain Sciences, Behaviour, Biology Letters, Cambridge Archaeological Journal, Carnivore, Current Anthropology, Developmental Psychobiology, Ecology and Evolution, Ecotopica, Ethology and Sociobiology, Ethology, Evolutionary Anthropology, Folia Primatologica, Geographica, Human Evolution, Human Nature, Intl Journal of Behavioral Development, Intl Journal of Primatology, Journal of Archaeological Science, Journal of Comparative Psychology, Journal of Human Evolution, Journal of Linnean Society of London, Journal of Royal Anthropological Institute, Laterality, Man, Nature, Oryx, Pan Africa News, PLoSOne, Primates, Proceedings of the National Academy of Sciences USA, Proceedings of the Royal Society of London B, Quarterly Journal of Experimental Psychology, Science, Yearbook of Physical Anthropology, Zoo Biology.

Invited Lectures to National or International Meetings

- 2017 “Conflict and Cooperation in Humanity’s Nearest Living Relations: Bonobo and Chimpanzee”, keynote lecture, 12th International Congress, Gesellschaft für Anthropologie, Giesling, Germany
- 2016 “‘Parting Is Such Sweet Sorrow’, but Only for Humans?”, lecture, 6th International Symposium in Primatology & Wildlife Science, Kyoto, Japan
- 2016 “Is Fission-Fusion the Key?”, symp. introduction, Chimpanzees in Context, Chicago, USA
- 2016 “Living Apes as Models for Dead Humans: Stones, Bones, and Ecotones”, keynote lecture, 3rd European Conference on Behaviour and Cognition, St. Andrews, Scotland
- 2015 “Living Apes as Models for Dead Humans: Stones, Bones, and Ecotones”, lecture, 5th Biological Evolution Workshop, Porto Alegre, Brazil

- 2015 “Chasing after Chimpanzees: Confessions of a Chimpaholic”, lecture, 5th International Symposium on Primatology and Wildlife Science, Kyoto, Japan
- 2014 “The Cultured Chimpanzee: Nonsense or Breakthrough?”, keynote lecture, Latin American Association of Biological Anthropology, Santiago, Chile
- 2014 “Cultural Primatology: Issues and Insights”, lecture, 4th International Symposium on Primatology and Wildlife Science, Kyoto, Japan
- 2013 “Experimental Primate Lithics: Detecting Stone Handling by Japanese Macaques”, workshop, Percussive Technology in Human Evolution, Leverhulme Trust Networks Program, Kyoto University, Japan
- 2013 “Primate Archaeology: New Windows into the Past”, symposium, Human Evolution Past and Present, Max Planck Inst. Human Ethology, Andechs, Germany
- 2012 “Chimpanzee Culture Revisited”, symp. ‘Evolutionary Origins of Human Mind’, International Institute for Advanced Studies, Kyoto, Japan
- 2012 “Is Primate Tool Use Special?”, symp., ‘Tool Use as Adaptation’, Royal Society Kavli Centre, UK
- 2012 “Cultural Primatology: Nonsense or Breakthrough?”, lecture, Psychology Division, Nanyang Technological University, Singapore
- 2012 “Entomophagy in Primates: Tracking the ‘Other Faunivory’”, lecture, Annual Conference of British Association for Biological Anthropology and Osteoarchaeology, Bournemouth, UK
- 2011 “Triangulating on Technology: Three Routes to Percussive Lithics in Primates”, podium presentation, Fourth Congress of European Federation for Primatology, Lisbon, Portugal
- 2011 “Unnatural Behaviour: Obstacle or Insight at the Species Interface?”, roundtable, ‘Humans and Other Apes: Rethinking the Species Interface’, New York, NY.
- 2011 “Memories of Gombe over Three Decades”, symposium, ‘An Oral History of Primatology at Cambridge’, Personal Histories Project, Cambridge
- 2011 “Chimpanzees and the Last Common Ancestor”, public lecture, Institute of Human Origins, Arizona State Univ., Tempe, AZ
- 2011 “It All Started with Jane: Fifty Years of Wild Chimpanzee Tool Use”, public lecture, North of England Zoological Society, Chester, UK
- 2010 “Fifty Years of Chimpanzee Tool Use: What’s Left to Know?”, Distinguished Alumni Lecture, College of Arts and Science, University of Oklahoma, USA
- 2010 “Fifty Years of Wild Chimpanzee Tool Use: Where Do We Stand? lect., HOPE-GM Lectures on Mind and Society, Kyoto University, Japan
- 2010 “Spontaneous Ingestion of Ethanol by Non-human Primates: Seven Hypotheses and Some Preliminary Findings”, Japan Society of Animal Psychology, Nagoya, Japan
- 2010 “It All Started with Jane: Fifty Years of Wild Chimpanzee Tool Use”, Osman Hill Lecture, Primate Society of Great Britain, London
- 2009 “The First 4 Million Years of Human Evolution”, Royal Society, discussion meeting, London
- 2009 “150 Anos depues de Darwin: Evolution futuro o crisis?”, CENIEH, symp., Burgos, Spain
- 2009 “The Dawn of Language, Imagination, and Spirituality”, Templeton Foundation, symp., Cape Town, South Africa
- 2008 W.C. Osman Hill Lecture, Primate Society of Great Britain, London, UK
- 2008 “Origins of Percussive Technology”, Leverhulme Centre for Human Evolutionary Studies, symp., Cambridge, UK
- 2008 “Fest Conference for W. Schiefenhoevel’, Max-Planck-Gesellschaft, symp., Andechs, Germany
- 2008 “Human and Non-Human Ethology”, symp., Russian Academy of Sciences, Novosibirsk, Russia
- 2007 Belgian Group for Primatology, keynote lecture, Antwerp, Belgium
- 2007 7th Kongress der Gesellschaft fur Anthropologie, plenary lecture, Freiburg, Germany

- 2007 “The Mind of the Chimpanzee,” Understanding Chimpanzees IV, symp., Chicago, USA
- 2007 James Drever Lecture, School of Psychology, University of Edinburgh, Scotland
- 2006 “Anthropology at UCL,” symp., University College London
- 2006 “Transcultural Universals,” symp., Wissenschaftskolleg, Delmenhorst, Germany
- 2006 “Bossou 30 Ans,” symp. Conakry, Republic of Guinea
- 2006 Journal of Anthropological Research Annual Lecture, Univ. of New Mexico, Albuquerque, USA
- 2005 “Nature, Language, Culture: Learning from Animals?” symp., Essen, Germany
- 2005 “Chimpanzee Cultures,” Origins of Humans, San Diego, USA
- 2005 “Chimpanzee Material Culture,” Chacmool Conf., symp. Calgary, Canada
- 2004 “African Great Apes: Evolution, Diversity & Conservation”, symp., Kyoto University, Japan
- 2003 “Konrad Lorenz Symposium,” Ludwig-Maxmillians-Universität, Munich, Germany
- 2003 “Konrad Lorenz Symposium 2”, University of Bucharest, Romania
- 2003 “International Primatological Conference,” Lisbon, Portugal
- 2002 “Evolution, Behaviour, Society,” Human Ethology Summer School, Pushchino, Russia
- 2002 “Production and Reproduction,” Southern California Primate Research Forum, Los Angeles, USA
- 2001 “Culture in Marine Mammals,” Biennial Marine Mammals Conference, Vancouver, Canada
- 2001 “Fluid Bread: Images and Usages of Beer in Crosscultural Perspective”, symp., International Commission for the Anthropology of Food, Seewiesen, Germany
- 2001 “Evolutionary Neighbors”, symp., 4th International SAGA Forum, Okayama, Japan
- 2000 “The Social Brain: Evolution and Pathology”, symp., Max-Planck Inst. Beh. Physiol., Bochum, Germany
- 2000 “Animal Social Complexity and Intelligence”, symp., Chicago Acad. of Sci, Chicago, USA
- 2000 “Human Universals”, symp., Hanse Wissenschaftskolleg, Andechs, Germany
- 2000 “Chimpanzee Cultures”, exhibition, New Frontiers in Science 2000, Royal Society and Royal Society of Edinburgh, London and Edinburgh, UK
- 2000 “Behavioral Diversity in Chimpanzees and Bonobos”, symp., Max-Planck Inst. Evolutionary Anthropol., Seelon, Germany
- 1999 “Evolution and Culture”, symp., Fondation Fyssen, St. Germaine, France
- 1999 “Anthropology at the End of the Century”, symp., Wenner-Gren Foundation, Cabo San Lucas, Mexico
- 1999 “Origins”, symp., Living Links Center for Advanced Study of Human and Ape Evolution, Atlanta, USA
- 1999 “Primate Cultures”, symp., Southern California Primate Research Forum, Los Angeles, USA
- 1998 “The Early Human Diet: The Role of Meat”, symp., Wenner-Gren Foundation, Madison, USA
- 1998 “Hominid and Non-Hominid Primate Behaviour and Lifestyles”, symp., Dual Congress of Int. Assn. Study of Human Palaeontology and Int. Assn. of Human Biologists, Sun City, South Africa
- 1998 “Evolving the Human Mind”, symp., Hang Seng Centre for Cognitive Studies, Sheffield, UK
- 1998 “Primatology and Human Nature”, roundtable, Dialogue between Science and Religion, Amer. Assn. Advancement Sci., Washington, USA
- 1997 “Human Evolution”, symp., Cold Spring Harbor Laboratory, New York, USA
- 1997 “Exploring the Primate Mind”, symp., National Zoological Park, Smithsonian Institution, Washington USA
- 1995 “Chimpanzee Behavioral Diversity”, plenary lecture, Midwest Animal Behavior Conference, Oxford, Ohio, USA
- 1994 “The Great Apes Revisited”, symp., Wenner-Gren Foundation, Cabo San Lucas, Mexico
- 1994 “Anthropologie Heute”, symp., Gesellschaft für Anthropologie, Potsdam, Germany
- 1992 “Ethological Roots of Culture”, NATO Advanced Study Inst., Cortona, Italy

- 1991 “Great Apes of the World”, symp., Orangutan Foundation International, Jakarta, Indonesia
- 1991 “Food and the Status Quest”, symp., European Commission on the Anthropology of Food, Ringberg, Germany
- 1991 “Foraging Strategies and Natural Diet of Monkeys, Apes, and Humans”, symp., Royal Society Discussion Meeting, London, UK
- 1991 “Understanding Chimpanzees II”, symp., Chicago Acad. of Sci., symp., Chicago, USA
- 1990 “Tools, Language, and Intelligence: Evolutionary Implications”, symp., Wenner-Gren Foundation, Cascais, Portugal
- 1988 “Tool-Use by Primates”, symp., Fondation Fyssen, Versailles, France
- 1987 “Comparative Socioecology of Mammals and Man”, symp., Brit. Ecological Society and Royal Anthropol. Inst., Durham, UK
- 1986 “The Pleistocene Perspective”, symp., World Archaeology Congress, Southampton, UK
- 1986 “Understanding Chimpanzees”, symp., Chicago Acad. of Sci., Chicago, USA
- 1986 “Fourth International Conference on Hunting and Gathering Societies”, symp., London, UK
- 1985 “Primates”, symp., British Social Biology Council, London, UK
- 1984 “The Sharing of Food”, symp., Werner Reimers Stiftung, Bad Homberg, Germany
- 1980 “Nonhuman Primates in Biomedical Programs”, symp., Humane Society of USA, San Francisco, USA
- 1974 “The Great Apes”, symp., Wenner-Gren Foundation, Burg Wartenstein, Austria
- 1972 “The Growth of Competence”, Ciba Foundation, London

Colloquia Given at Universities and Other Places (* = Multiple)

* Aberdeen, Alberta, * Andechs (Max-Planck), * Arizona State, Armstrong Atlantic, Basel, Bristol, Bucknell, Budapest, Buffalo, * California-Berkeley, California-Davis, California-Los Angeles, * California-San Diego, * Cal State-Fullerton, * Cambridge, Case-Western, Centenary, * Centre College, Charleston, Chester, Chicago Zool. Soc., Cincinnati, Colorado-Boulder, Colorado-Colorado Springs, Colorado-Denver, * Duke, Dundee, * Durham, * Earlham, * Edinburgh, Emory, Georgia, George Washington University, Glasgow, * Göttingen, Illinois, * Indiana, * Jersey Zoo, * John Carroll University, Kent, Kent State, Kenyon College, Leipzig, * Liverpool, Manchester, * Miami (Ohio), Michigan, * Milano, Minnesota, Munich, * New Mexico, New York University, North Carolina-Charlotte, Ohio State University, * Oklahoma, * Oxford, Oxford Brookes, Pisa, Potsdam, Roma, * St. Andrews, * Singapore Nanyang Technological University, South Carolina-Beaufort, Stanford, Southern California, * Stirling, Tennessee, * University College London, Utica, West Georgia, * Wisconsin, Wright State, * Zürich

Conference Organisation

- 2012 “Insectivory”, symposium, American Association of Physical Anthropologists, Portland, Oregon
- 2011 “Lateral Thinking: The Evolution of Human Handedness”, workshop, HWK, Delmenhorst, Germany
- 2007 “Palaeoanthropology Meets Primatology,” symposium, Biological Anthropology, University of Cambridge
- 2005 “Primatology Meets Palaeoanthropology,” workshop, Miami University, Oxford, Ohio
- 1996 “*Cebus* Meets *Pan*,” symposium, International Primatological Society, Madison (with E. Visalberghi)
- 1996 “Nesting and Resting in Primates”, symposium, International Primatological Society, Madison (with B. Fruth)

- 1994 “The Great Apes Revisited”, Wenner-Gren Foundation for Anthropological Research, Cabo San Lucas, Mexico (with T. Nishida)
- 1992 “Scottish Conference on Animal Behaviour”, Stirling
- 1990 “Origins of Monogamy”, symposium, International Primatological Society, Kyoto
- 1989 “Behavioural Ecology of Neotropical Primates”, meeting, Tropical Ecology Group, British Ecological Society, London
- “Weekend Workshop on Callitrichid Behavior”, Scottish Primate Research Group, Stirling
- 1988 “Tools Compared: The Material of Culture”, conference, Royal Anthropological Institute, London
- 1985 “Scottish Conference on Animal Behaviour”, Stirling
- 1982 “Gorilla Ecology”, workshop, International Primatological Society, Atlanta
- 1981 “Scottish Conference on Animal Behaviour”, Stirling
- 1980 “Primate Tool-Use”, satellite symposium, International Primatological Society, Florence

Books

- 1972 McGrew, W.C. *An Ethological Study of Children’s Behavior*. New York: Academic Press, 268 pp.
- Published in the Child Psychology Series. Positive reviews in *Nature*, *Science*, *Contemporary Psychology*, etc. Translated into Italian and Japanese.
- 1992 Nishida, T., McGrew, W.C., Marler, P., Pickford, M. & de Waal, F.B.M. (eds.) *Topics in Primatology, Volume 1. Human Origins*. Tokyo: University of Tokyo Press, 475 pp.
- Edited volume of proceedings of symposium at Congress of International Primatological Society
- 1992 McGrew, W.C. *Chimpanzee Material Culture: Implications for Human Evolution*. Cambridge University Press, 277 pp.
- Won 1996 W.W. Howells Prize of the American Anthropological Association, for the best book of the year in biological anthropology. Positive reviews in *Nature*, *Science*, *Scientific American*, *New Scientist*, *American Scientist*, as well as in popular press, e.g. *Economist*, *Times Higher*, and disciplinary journals, e.g. *Contemporary Psychology*, *Cambridge Archaeological Journal*. Went into four printings and translated into Japanese and Turkish.
- 1994 Wrangham, R.W., McGrew, W.C., de Waal, F.B.M. & Heltne, P.G. (eds.) *Chimpanzee Cultures*. Cambridge, MA: Harvard University Press, 424 pp.
- Edited volume received positive reviews in *Science*, *New Scientist*, *Science News*, *Ethology*, *Times Higher*, *Los Angeles Times*, etc. Went into paperback a year after publication.
- 1996 McGrew, W.C., Marchant, L.F. & Nishida, T. (eds.) *Great Ape Societies*, Cambridge: Cambridge University Press, 328 pp.
- Edited volume received positive reviews in both general (*Nature*, *American Scientist*) and specialist (*American Zoologist*, *Evolutionary Anthropology*, *Man*) scientific journals, as well as the popular

press (*BBC Wildlife, Times Higher*). Multiple printings.

- 2004 McGrew, W.C. ***The Cultured Chimpanzee: Reflections on Cultural Primatology***, Cambridge University Press, 248 pp.

Positive reviews in *Nature, American Scientist, Primates, American Anthropologist*, etc. Translated into Slovenian.

- 2010 Nishida, T., Zamma, K., Matsusaka, T., Inaba, A. & McGrew, W.C. ***Chimpanzee Behavior in the Wild: A Visual Encyclopedia***, Springer, 255 pp.

- 2011 Bruene, M., Salter, F. & McGrew, W.C. (eds.) ***Building Bridges between Anthropology, Medicine and Human Ethology. Tributes to Wulf Schiefenhoewel***. Bochum University Press, 266 pp. (Festschrift)

- 2021 McGrew, W.C. ***Chasing after Chimpanzees: The Making of a Primatologist***, Mereo Books, 260 pp. Memoir.

Positive reviews in *American Journal of Primatology, Human Ethology, International Journal of Primatology, Primate Biology, Primate Research, Primates*, etc.

Journal Special Issues Edited

- 1982 McGrew, W.C. Primate Tool Use. *Journal of Human Evolution*, 11: 1-104.

- 1997 Visalberghi E & McGrew WC *Cebus Meets Pan*. *International Journal of Primatology*, 18: 677-830.

- 1998 Fruth, B. & McGrew, W.C. Nesting and Resting in Primates: Behavioral Ecology of Inactivity. *American Journal of Primatology*, 46: 1-101.

- 2009 McGrew, W.C. & Foley, R. Palaeoanthropology Meets Primatology, *Journal of Human Evolution*, 57: 335-435.

- 2013 McGrew, W.C., Marchant, L.F. Schiefenhoewel, W. Evolution of Human Handedness, *Annals of New York Academy of Sciences*, 1288: 1-152.

- 2014 O'Malley, R.C. & McGrew, W.C. Insectivory: The Other Faunivory. *Journal of Human Evolution*, 71: 1-99.

Journal Articles & Book Chapters (refereed journal articles in **bold**)

1. 1969 McGrew, W.C. An ethological study of agonistic behaviour in preschool children.
In: *Proceedings of the Second International Congress of Primatology, Volume 1, Behavior*, Carpenter, C.R. (ed.), Basel: Karger, pp. 149-159.
2. 1970 McGrew, W.C. Glossary of motor patterns of four-year-old children.
In: *Direct Observation and Measurement of Behavior*, Hutt, S.J. & C.

- Springfield, IL: Charles C. Thomas, pp. 210-218.
3. **1971** McGrew, W.C. & McGrew, P.L. Group formation in preschool children.
In: *Proceedings of the Third International Congress of Primatology, Volume 3, Behavior*, Kummer, H. (ed.), Basel: Karger, pp. 71-78.
 4. Hudson, P.T., McGrew, W.C. & McGrew, P.L. Attention structure in a group of preschool infants.
In: *Proceedings of the CIE Architectural Psychology Conference*, Kingston-on-Thames: RIBA & Kingston Polytechnic, pp. 12-16.
 5. **1972** McGrew, W.C. Aspects of social development in nursery school children, with emphasis on introduction to the group.
In: *Ethological Studies of Child Behaviour*, Blurton Jones, N.G. (ed.), Cambridge: Cambridge University Press, pp. 129-156.
 6. McGrew, P.L. & McGrew, W.C. Changes in children's spacing behaviour with nursery school experience.
Human Development, 15: 359-372.
 7. McGrew, W.C. & Tutin, C.E.G. Chimpanzee dentistry.
Journal of the American Dental Association, 85: 1198-1204.
 8. **1973** McGrew, W.C. & Tutin, C.E.G. Chimpanzee tool use in dental grooming.
Nature, 241: 477-478.
 9. Tutin, C.E.G. & McGrew, W.C. Chimpanzee copulatory behaviour.
Folia Primatologica, 19: 237-256.
 10. Tutin, C.E.G. & McGrew, W.C. Sexual behavior of group-living adolescent chimpanzees.
American Journal of Physical Anthropology, 38: 195-200.
 11. McGrew, W.C. & McGrew, P.L. McGrew-McGrew system.
In: *Measures of Maturation: An Anthology of Early Childhood Observation Instruments, Volume 2*, Boyer, E., Simon, A. & Karaffin, G. (eds.), Philadelphia: Research for Better Schools, Inc., pp. 1313-1365.
 12. **1974** McGrew, W.C. Interpersonal spacing of preschool children.
In: *The Growth of Competence*, Connolly, K.J. & Bruner, J.S. (eds.), London: Academic Press, pp. 265-281.
 13. McGrew, W.C. Tool use by wild chimpanzees in feeding upon driver ants.
Journal of Human Evolution, 3: 501-508.
 14. **1975** McGrew, W.C. Patterns of plant food sharing in wild chimpanzees.
In: *Contemporary Primatology*, Kondo, S. & Ehara, A. (eds.), Basel: S. Karger, pp. 304-309.
 15. McGrew, W.C. & McGrew, P.L. Interpersonal spacing behavior of preschool children during group formation.
Man-Environment Systems, 5: 43-48.
 16. McGrew, W.C., Tutin, C.E.G. & Midgett, P.S. Tool use in a group of captive chimpanzees. I: Escape.
Zeitschrift für Tierpsychologie, 37: 146-162.
 17. **1976** File, S.K., McGrew, W.C. & Tutin, C.E.G. The intestinal parasites of a community of feral chimpanzees, *Pan troglodytes schweinfurthii*.
Journal of Parasitology, 62: 259-261.
 18. **1977** McGrew, W.C. Socialization and object manipulation of wild chimpanzees.
In: *Primate Bio-Social Development*, Chevalier-Skolnikoff, S. & Poirier, F.E. (eds.), New York: Garland, pp. 261-288.

19. **1978** McGrew, W.C. & Tutin, C.E.G. Evidence for a social custom in wild chimpanzees?
Man, 13: 234-251.
20. McGrew, W.C., Tutin, C.E.G., Baldwin, P.J., Sharman, M.J., & Whiten, A. Primates preying upon vertebrates: New records from West Africa (*Pan troglodytes verus*, *Papio papio*, *Cercopithecus sabaues*).
Carnivore, 1: 41-45.
21. **1979** McGrew, W.C. Evolutionary implications of sex differences in chimpanzee predation and tool use.
In: *The Great Apes*, Hamburg, D.A. & McCown, E.R. (eds.), Menlo Park: Benjamin/Staples, pp. 441-463.
22. McGrew, W.C., Tutin, C.E.G., Baldwin, P.J. New data on meat-eating by wild chimpanzees.
Current Anthropology, 20: 238-239.
23. McGrew, W.C., Tutin, C.E.G., Baldwin, P.J. Chimpanzees, tools and termites: Cross-cultural comparisons of Senegal, Tanzania and Rio Muni.
Man, 14: 185-214.
24. **1980** Rushton, E. & McGrew, W.C. Breech birth of a chimpanzee (*Pan troglodytes*).
Journal of Medical Primatology, 9: 389-393.
25. Graham, C.A. & McGrew, W.C. Menstrual synchrony in female under-graduates living on a coeducational campus.
Psychoneuroendocrinology, 5: 245-252.
26. **1981** McGrew, W.C. The female chimpanzee as an evolutionary prototype.
In: *Woman the Gatherer*, Dahlberg, F. (ed.), New Haven: Yale University Press, pp. 35-73.
27. McGrew, W.C., Baldwin, P.J. & Tutin, C.E.G. Chimpanzees in a hot, dry and open habitat: Mt. Assirik, Senegal, West Africa.
Journal of Human Evolution, 10: 227-244.
28. McGrew, W.C. Social and cognitive capabilities of non-human primates: Lessons from the field to captivity.
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EXHIBIT 3

RECEIVED by MCOA 4/23/2024 9:03:40 AM

AFFIDAVIT OF JENNIFER M.B. FUGATE

If duly sworn, I will testify:

Introduction and Qualifications

1. My name is Jennifer M.B. Fugate. I reside Shawnee, Kansas and work in Kansas City, MO. I have a B.S. (1999) from the University of Wisconsin – Madison in Psychology and Zoology, and a Ph.D. (2008) from Emory University in Atlanta, Georgia in Psychology (Neuroscience and Animal Behavior). I was a Postdoctoral Fellow at Boston College in Psychology from 2008-2010 and a Postdoctoral Researcher in Psychology at Northeastern University from 2010-2012. I then worked as a Lecturer, Assistant and then Associate Professor at the University of Massachusetts at Dartmouth (2012- Dec. 2020), before my current position as Associate Professor at Kansas City University (Jan. 2021-current).

2. I submit this Affidavit in support of the Nonhuman Rights Project, Inc.'s complaint for a writ of habeas corpus regarding the captive chimpanzees at DeYoung Family Zoo. I am a non-party to this proceeding.

3. I am currently an Associate Professor at Kansas City University in the Health Services Psychology Department, a graduate program for Doctors of Psychology (PSYD). I have been in this position since January 2021, after working for nine years at the University of Massachusetts at Dartmouth in which I earned promotion and tenure in 2020. My current duties include teaching, advising, and service to the University. In addition, I run the ABLE (Affect, behavior, and learning through embodiment) laboratory on campus, in which fifteen medical, graduate biosciences, and clinical psychology students volunteer. I also chair five doctoral dissertations for the department. I teach four different courses (Research Methods I and II,

Cognitive-Affective II, Social-Cultural Psychology) all for clinical doctoral students. At my previous universities, I have taught a mixed of graduate and undergraduate classes, including Statistics (u), Research Methods (u), Cognition (u), Social Psychology (u), Advanced Social Seminar (g), Special Topics: Psychological Constructionism (u/g), Comparative Psychology/Primate Behavior (u), among others.

4. I was the recipient of a Ruth Kirschstein National Research Service Award (NRSA) grant (funded by the NIMH, 2010-2012) for my postdoctoral research. I have also received several teaching and development grants at both my previous (University of MA) and current (Kansas City University) institutions, and have applied for over fifteen federal and foundational grants. I have received several institutional grants to fund my research. Recently, I have co-edited a book on Embodied Learning (MIT Press), entitled “Movement Matters: How Embodied Cognition Informs Teaching and Learning” (2022), which is available open access through generous funding from the Arcadia Fund.

5. My doctoral specialization was in human and nonhuman social cognition, especially the role of language in emotion perception among chimpanzees. Currently, my research focuses on the role of language on emotion perception and regulation in humans. I am a reviewer for several major academic journals in social and cognitive psychology, and recently co-edited a special edition of *Frontiers in Psychology* on Emotional Granularity (2022) [10.3389/fpsyg.2022.1080713](https://doi.org/10.3389/fpsyg.2022.1080713).

6. My graduate research involved rhesus macaques, chimpanzees, and human participants. My research during this time involved studying the production and perception of vocalizations in rhesus macaque monkeys, and the perception of vocalizations and perception of facial expressions in chimpanzees. My research was conducted at the Yerkes Primate Research

Center, and included animals at both “main station” (pair-housed) and “field station” (group-living). Currently, I do not have access to nonhuman primates and my empirical research in the fourteen years has been exclusive to humans. I continue to write theoretically about the cognitive capacities of nonhuman and human primates.

7. I have written chapters for six books, one of which is relevant to the discussion here: *Evolutionary constraints and cognitive mechanisms in the construction of an emotion: Insights from human and nonhuman primates*. In: *The Psychological Construction of Emotion*. (Eds. Lisa Feldman Barrett & Jim Russell). New York: Guilford (2015).

8. I have published over thirty peer-reviewed articles on different research areas, two of which are relevant to the discussion here: *Emotional communication in Primates: Implications for neurobiology* (2005) and *Reading chimpanzee faces-Evidence for the role of verbal labels in categorical perception of emotion* (2010). My dissertation (2008, Emory University) is entitled: *An investigation of categorical perception for chimpanzee facial expressions by conspecifics*. Together, these publications examine how chimpanzees and humans perceive chimpanzee emotional expressions, and whether the structural information provided by a face is sufficient for emotion perception or whether additional (auditory or linguistic) information is necessary.

9. I have presented my research at over 70 national and international conferences, with the most relevant work being presented at meetings sponsored by the *International Society for Research on Emotion*, *International Primatological Society*, *Animal Behavior Society*, *International Conference on Comparative Cognition*, and *American Psychological Society*. I have also given research talks on chimpanzee communication and emotion at several universities, including Emory University and Boston College. I am a past or current member of nine professional societies, including *American Psychological Society*, *International Society for*

Research on Emotion, International Primatological Society, Animal Behavior Society, and Comparative Cognition. My Curriculum Vitae fully sets forth my educational background and experience and is annexed hereto as “**Exhibit A.**”

Basis for Opinions

10. The opinions I state in this Affidavit are based on my professional knowledge, education, training, and 10 years of research with chimpanzees, as well as my reading of peer-reviewed articles published in some of the world’s most respected journals and books that are generally accepted as authoritative in the field of comparative social cognition, many of which were written by colleagues with whose research I am personally familiar. A full reference list of peer-reviewed literature cited herein is annexed hereto as “**Exhibit B**”.

Opinions

11. Like human beings, chimpanzees are autonomous beings who possess advanced cognitive abilities. 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 analyzing their behavior.

12. Some of the most recent advances in our understanding of emotion in animals, particularly in such nonhuman primates as chimpanzees, have come from communication research (Parr & Waller, 2006). This includes significant advances in our understanding of the signals and expressions used by nonhuman primates to communicate about emotion. The accumulation of evidence suggests that the emotional systems of chimpanzees may have become specialized to

cope with the increasing demands of complex social organization and more elaborate relationships. During social interactions, chimpanzees exchange emotional information mainly through vocalizations, facial expressions, gestures, and bodily postures (see Kret et al., 2020 for a review), and the ability to exchange such information reveals the highly cognitively complex and autonomous nature of chimpanzees.

13. In this Affidavit, I will mainly focus on facial and auditory production (facial “expressions” and vocalizations) and emotional perception in the visual and (to some extent) the auditory domain.

Facial and auditory production

14. Chimpanzees have approximately 20-30 different facial expressions and their vocalizations have been divided into several categories based on morphology and apparent function (Parr et al., 2005). Several independent lines of evidence suggest that many facial expressions are shared across humans and chimpanzees (Andrew, 1963). First, the facial musculature which forms the structure of facial expressions is essentially the same in humans and chimpanzees (Burrows et al., 2006; Huber, 1931). The human face has 42 muscles that allow for a rich variety of movements, many which are thought to indicate emotional information or at least contain the structural information that gives rise to discrete emotion categories (for a rich debate, see Barrett, 2006a,b). Chimpanzees, and the other great apes, have surprisingly similar mimetic musculature in their faces (Burrows et al., 2006). Likewise, stimulation of these muscles in both species produces nearly identical facial movements (Vick et al., 2007; Waller et al., 2006). This implies that, with few exceptions, the facial expressions of humans and chimpanzees can be compared directly. The facial action coding system (FACS), originally developed for human anatomy (Ekman & Friesen, 1978; Ekman et al., 2002), has now been adapted for other primates,

including chimpanzees (ChimpFACS, Vick et al., 2007), gorillas (Dobson, 2009), and orangutans (Caeiro et al., 2013), and shows similarity across facial movements described across species (Parr et al., 2007). Using this system, the ChimpFACS system based on muscular movements (called action units) was able to assign chimpanzee photos of faces that were coded into facial expressions by morphological descriptions (i.e., Chevalier-Skolnikoff, 1973; Ladygina-Kohts, 1935/2002; van Hooff, 1972) with over 80% accuracy to the correct category. Moreover, these chimpanzee action units shared homology (similarity) with human facial movements (Parr et al., 2005). Specifically, according to Parr et al. (2007) a prototypical “angry” human face contains the action units 17 (mentalis) and 24 (orbicularis oris) (among other action units) and the functional chimpanzee equivalent, the “bulging lip display”, contains these same two action units; a prototypical “smile” human face contains the action units 12 (zygomatic major) and 25 (typically mentalis) (among other action units) and so too does the functionally equivalent “silent bared teeth face” of the chimpanzee (among other action units); a prototypical “screaming” human face contains the action units 10 (levator labii superioris), 12, 16 (depressor labii inferioris), 25, 27 (pterygoids, digastric) (among other action units) and the functional equivalent chimpanzee “scream” face contains these same action units. Finally, a prototypical “laughter” human face contains the action units 12, 25, 26 (masseter, relaxed temporalis, and relaxed internal pterygoid) (among other action units) and the chimpanzee functional equivalent, the “relaxed open mouth”, contains these same action units.

15. Many of the expressions in chimpanzees and humans are displayed in similar circumstances, suggesting a common function or meaning. Since chimpanzees live in complex social groups, they must possess well-developed emotional processing skills in order to be able to interpret the many different meanings associated with facial expressions used in different emotional contexts (Parr et al., 2005). These facial expressions reflect the motivations and

tendencies towards certain actions in the individual given a set of social and environmental conditions (Goodall, 1986; Marler, 1976; Parr et al., 2005; van Hooff, 1967). Some of the basic categories include the “silent bared teeth display”, which is typically used as a signal of agonistic intent by the sender (Waller & Dunbar, 2005), and shows remarkable homology with a human smile (Preuschoft & van Hooff, 1997; van Hooff, 1972). Other categories include the chimpanzee “play” display, used almost exclusively during play and to initiate play (Parr et al., 2005) and which may be accompanied by laughter; “pouts and whimpers”, which are used to get something that is desired but not obtainable and may be used by infants during weaning and to seek reassurance and during begging; the “pant hoot” display, which is used for extreme excitement and in bluff displays and in reuniting. Finally, the large class of “screams” includes many acoustically distinct and perhaps functionally distinct calls, all united in their general function of fighting, separated by victim and attacker (Slocombe & Zuberbuhler, 2005).

16. The complex nature of chimpanzee auditory and visual communicative and expressions likely evolved to increase the rates of affiliative behavior between individuals that promote social bonding similar to that in humans (Preuschoft & van Hooff, 1995; van Hooff, 1972). Thus, the use and comprehension of these signals likely played a role in the long-lasting social relationships in early Hominoid ancestors (see Parr et al., 2005), and is supported the Social Brain Hypothesis, which states that the relative brain size increased in the Primate Order because of selective pressures associated with living in complex environments (Dunbar, 1993, 1998).

17. Chimpanzee vocalizations and facial expressions can be controlled and regulated and changed based on context and audience, suggesting that they can be *intentional* in some cases, despite longstanding debate as to the internal mental representations (Clay & Zuberbuhler, 2012).

Empathy

18. Chimpanzees also exhibit “emotional contagion,” which is a basic form of empathy that results from watching the behavior of others (Preston & de Waal, 2002). There is evidence of this kind of empathy in chimpanzees for contagious yawning, scratching, and such behavior as play and aggression (Anderson et al., 2004; Parr & Hopkins, 2001). This kind of complex emotional awareness plays a key role in coordinating activities among group members, including facilitating social bonding and motivating cooperation, conciliation, and other forms of pro-social behaviors in chimpanzees. One of the neurobiological bases for empathy may be the presence of mirror neurons, special nerve cells in the primate brain. Mirror neurons are found in the prefrontal cortex of all primates, including humans and chimpanzees. They allow for the ability to share and relate to another’s emotional state. These specialized cells respond to actions performed by an individual but also when those individual watches the same action performed by others, forming the basis of empathic responses (Preston & de Waal, 2002).

Perception

19. Chimpanzees, with minimal training, are not only able to recognize familiar individuals but are also able to discriminate different species-typical facial expressions of unfamiliar individuals when presented on a computer screen. These findings show that chimpanzees are sensitive to the distinctive features of different facial expressions (Parr et al., 1998). They are also able to extract emotional meaning from short videos depicting behavioral events (e.g., a caregiver giving a chimpanzee a hypodermic injection for veterinary purposes, or researcher rewarding another chimpanzee with food). For example, using match-to-sample computerized training, chimpanzees can match a positive facial expression (such as making a “play face”) to positive events and negative facial expressions (such as bared teeth or “scream face”) to negative events (Parr, 2001), demonstrating that these facial expressions are reliably associated

with familiar emotional events. This type of matching extends to chimpanzees being able to match real pictures of familiar chimpanzee individuals to computer-animated facial expressions of them (Parr et al., 2008).

20. Chimpanzees are able to match cross-modally: Using again the match-to-sample computer paradigm and with minimal training, chimpanzees who are played an auditory vocalization of another chimpanzee are able to match the identity of the caller to the face of the individual on the screen (Kojima et al., 2003; Parr, 2004). Chimpanzees in captivity have also been shown to match a voice recording of a familiar human to the picture of the human (Hashiya & Kojima, 2001). These findings show that chimpanzees are highly attuned to the individual emotional expressions and states of others.

21. In my dissertation work, chimpanzees (again, using the same computerized training) were able to appropriately sort chimpanzees faces that were morphed (blended) between emotional expressions into the two categories of emotions by the percentage of each emotion depicted, showing the basis of a phenomenon known as categorical perception (Fugate, 2008). Categorical perception is a cognitively complex perceptual phenomenon in which the brain of an individual separates continuously varying information (here the morphs, which were created by blending the two expressions using systematically changing percentages) into discrete categories (either expression) (Harnad, 1987). Additionally, when chimpanzee vocalizations were played that were congruent with one of the facial expressions used to create the morph, chimpanzees' perception of the most ambiguous morph (50% of each expression) was altered by the nature of the accompanying vocalization, suggesting the perception of facial expressions can be modified by additional cues such as vocalizations.

22. For ten years, I studied emotions in chimpanzees and have examined, specifically, the cognitive bases of emotion. Human language provides one way for our species to make certain distinctions in emotion (Barrett, 2006a,b; 2009; 2011b; Fugate et al., 2010; Fugate, 2014), but human language may not be necessary for chimpanzees and other great apes to find meaning in basic emotional information from the face, voice, body, etc. (this central feature of emotion – based on information other than human language – is called core affect and is shared with humans). Moreover, chimpanzee communication skills are rich and chimpanzees share components of at least three basic cognitive abilities with humans, including 1) analogical reasoning (using relational devices, like symbols, to organize information at a higher level) (Thompson & Oden, 2000), 2) shared mental states (understanding that others have minds and goals and intentions and false beliefs) (Call et al., 2004; Hare et al., 2001), and 3) causal inference (an ability to intuit hypothetical or causal forces) (Brauer et al., 2006; Hanus & Call, 2008).¹ These abilities reinforce the conclusion that chimpanzees are autonomous, highly cognitively complex beings.

¹ Although beyond the scope of this particular affidavit, the evidence for each of these individual and cognitively-complex skills is reviewed in my book chapter, *Evolutionary constraints and cognitive mechanisms in the construction of an emotion: Insights from human and nonhuman primates*. In: *The Psychological Construction of Emotion*. (Eds. Lisa Feldman Barrett & Jim Russell). New York: Guilford (2014).

FURTHER, AFFIANT SAYS NOT.

Dated: Nov. 10, 2023

Jennifer M.B. Fugate
Jennifer M.B. Fugate

Acknowledged before me in Johnson County, Kansas, on 11/10/2023 by Jennifer M.B. Fugate

Dilyn Taylor-Cantu
(Stamp) Notary Public Signature

Notary's Name Dilyn Taylor-Cantu
Johnson County, Kansas
My Commission expires: 01/01/2027



EXHIBIT A

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CURRICULUM VITAE

Jennifer M.B. Fugate

Associate Professor
Kansas City University
Department of Health Psychology
1750 Independence Avenue
Kansas City, MO 64106
816-654-7469
jfugate@kansascity.edu
fugatejennifer.wordpress.com
embodiedcognitionandlearning.com

HIGHER EDUCATION

Degrees

1. Ph.D. - Emory University, Psychology (2008)
2. M.S. - Emory University, Psychology (2004)
3. B.S. - University of Wisconsin - Madison, WI, Psychology; Zoology (1999)

Additional Higher Education

1. Visiting Postdoctoral Researcher - Northeastern University (2011-2012)
2. Postdoctoral Research Fellow - Boston College (2008-2011)

EXPERIENCE

Current Institution

1. Kansas City University, January 2022-*current*, Associate Professor, Health Services Psychology

Other Institutions

1. University of Massachusetts Dartmouth, 2020-2022, Associate Professor, Psychology
2. University of Massachusetts Dartmouth, 2016-2020, Assistant Professor, Psychology
3. University of Massachusetts Dartmouth, 2012-2016, Full-Time Lecturer, Psychology
4. Northeastern University, Lecturer, 2011-2012, Psychology
5. Tufts University, Adjunct Professor, 2012, Psychology
6. Boston College, Adjunct Professor, 2010, Psychology
7. Emory University, Graduate Student Instructor, 2004-2008, Psychology

Current Courses Taught (KCU)

1. Social & Cultural Bases of Behavior PsyD 205
2. Research Methods II PsyD 151
3. Research Methods I PsyD 130
4. Cognitive and Affective II PsyD 215

Previous Courses Taught (UMassD)

1. Graduate Seminar in Social Psychology (PSY 550)
2. Research Methods in Social Psychology (PSY 391)
3. Social Constructionism: How Psychology Develops and Understands Constructs of the Mind (PSY 490/456/580)
4. Introduction to Psychology (PSY 101)
5. Social Psychology Non-majors (PSY 204)
6. Social Psychology (PSY 304)
7. Cognitive Processes (PSY 308)
8. Child Psychology (PSY 201)
9. Statistics (PSY 205)

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10. College of Arts and Sciences Introduction (CAS 101)
11. Graduate and Undergraduate Independent Study (PSY 595/495)
12. Undergraduate Honors Thesis (PSY 498/499)
13. Graduate Thesis (PSY 596)
14. Research Apprenticeship (PSY399)

ACADEMIC AND PROFESSIONAL HONORS

1. Invited Keynote Speaker, Research Symposium Kansas City University, Kansas City, MO (2023)
2. American Psychological Association APA-2023 The William James Book Award nominee for *Movement Matters: How Embodied Cognition Informs Teaching and Learning*. Cambridge, MA: MIT Press.
3. American Educational Research Association AERA - 2023 Outstanding Book Award nominee for *Movement Matters: How Embodied Cognition Informs Teaching and Learning*. Cambridge, MA: MIT Press.
4. Invited Speaker, Greater Kansas City Psychological Association, Kansas City, KS (2022)
5. Invited Speaker, Science Fridays Kansas City University, Kansas City, MO (2022)
6. Invited Speaker, Science Cafe, New Bedford, MA (2020)
7. Scholar of the Year, University of MA - Dartmouth (2019)
8. Invited Keynote Speaker at Sigma Xi, University of MA - Dartmouth (2016)

PUBLICATIONS

Published:

1. Macrine, S.L. & Fugate, J.M.B. (forthcoming). Embodied Learning: Translating Embodied Cognition Research. In L. Shapiro & S. Spaulding (Eds.), *The Routledge Handbook of Embodied Cognition*, 2nd ed. New York: Routledge.
2. Fugate, J.M.B. & Macrine, S.L. (2023). From Disembodiment to Embodiment in Artificial Intelligence and Psychology – Parallels in Thinking. Proceedings of the 3rd International Conference on Embodied Intelligence, March 22-24, 2023. Singapore.
3. Erbas, Y., Gendron, M., & Fugate, J.M.B. (2022). An editorial perspective on the state of emotional granularity in emotional well-being. *Frontiers in Psychology*, 13, <https://doi.org/10.3389/fpsyg.2022.1080713>
4. Sheila L. M., & Fugate, J. M. B. (2021). Embodied Cognition. In L. F. Zhang (Ed.), *The Oxford Encyclopedia of Educational Psychology* (Vol.1, pp.419-436). Oxford University Press.
5. Fugate, J.M.B. & Macrine, S.+ (2021). Embodied Cognition for classroom learning. *Frontiers in Education*, 6: Article 712626 <https://doi.org/10.3389/educ.2021.712626>
6. Le Mau, T., Hoemann, K., Lyons, S.H., Fugate, J.M.B., Brown, E.N., Gendron, M., Barrett, L.F. (2021). Professional actors demonstrate variability, not stereotypical expressions, when portraying emotional states in photographs. *Nature Communications*, 12, Article 5037 <https://doi.org/10.1038/s41467-021-25352-6>
7. Fugate, J.M.B. & Franco, C.L.* (2021). A review of electronic facial expression research and its relationship to “basic” emotions. *Frontiers in Psychology* doi: 10.3389/fpsyg.2021.605928
8. Kershaw, T. C., Fugate, J.M.B., & O'Hare, A. J. (2020). Teaching undergraduates to understand published research through structured practice in identifying key research concepts. *Scholarship of Teaching and Learning in Psychology*. Advance online publication. <https://doi.org/10.1037/stl0000239>
9. Fugate, J.M.B., MacDonald, C.* O'Hare, A.J. (2020). Emotion words' effect on visual awareness and attention of emotional faces. *Frontiers in Psychology*, 10, Article 2896.
10. Franco, C* & Fugate, J.M.B. (2020). Emoji face renderings: Exploring the role emoji platform differences have on emotional interpretation. *Journal of Nonverbal Behavior*, 44, 301–328.

11. Macrine, S. & Fugate, J.M.B. (2020). Embodied Cognition for classroom learning. *Oxford Research Encyclopedia of Education Project*. "Embodied Cognition".
<https://doi.org/10.1093/acrefore/9780190264093.013.885>
12. Fugate, J.M.B. & Franco, C.* (2019). What color is your anger? Assessing color- emotion pairings in English speakers. *Frontiers in Psychology: Cognition*, 10, Article 206.
13. Kershaw, T., Lippman, J. & Fugate, J.M.B. (2018). Practice makes proficient: Teaching undergraduate students to understand published research. *Instructional Science*, 46, 921-946.
14. Fugate, J.M.B., Macrine, S., & Cipriano, C. (2018). The role of embodied cognition for transforming learning. *International Journal of School and Educational Psychology*, 7(4), 274-288.
15. Fugate, J.M.B., O'Hare, A.J., Emmanuel, W.J.* (2018). Emotion words: Facing Change. *Journal of Experimental Social Psychology*, 79, 264-274
16. Fugate, J.M.B., Gendron, M., Nakashima, S., & Barrett, L.F. (2018). Emotion words: Adding face value. *Emotion*, 5(4), 693-706.
17. Fugate, J.M.B. & O'Hare, A. J. (2014). A review of "The Handbook of Cognition and Emotion", *The Journal of Social Psychology*, 154:1, 92-95.
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22. Parr, L.A., Waller, B. & Fugate, J. (2005). Emotional communication in primates: Implications for neurobiology. *Current Opinion in Neurobiology*, 15(6), 716-720.
23. Schroeder, B.E., Binzak, J.M. & Kelley, A.E. (2001). A common profile of prefrontal cortical activation following exposure to Nicotine or chocolate-associated contextual cues. *Neuroscience*, 105(3), 535-545.

*= student authors

+ = shared first author

Edited Books

1. Macrine, S. & Fugate, J.M.B. (2022). *Movement Matters: How Embodied Cognition affects Classroom Learning*. MIT Press: Cambridge, MA.

Dissertation

1. Fugate, J. M.B. (2008). Perception and classification of chimpanzee (Pan troglodytes) facial expressions and vocalizations. *Dissertation Abstracts International*, 69, 2667.

Book Chapters

1. Macrine, S. & Fugate, J.M.B. (forthcoming). Embodied Learning: Translating Embodied Cognition Research. In: L. Shapiro and S. Spaulding (Eds). *The Routledge Handbook of Embodied Cognition*, 2nd ed. New York: Routledge.
2. Macrine, S. & Fugate, J.M.B. (2022). Introduction. In: *Movement Matters: How Embodied Cognition affects Classroom Learning*. MIT Press: Cambridge, MA.
3. Macrine, S. & Fugate, J.M.B. (2022). Embodied cognition and its significance for Education. In: *Movement Matters: How Embodied Cognition affects Classroom Learning*. MIT Press: Cambridge, MA.
4. Macrine, S. & Fugate, J.M.B. (2022). Conclusion In: *Movement Matters: How Embodied Cognition affects Classroom Learning*. MIT Press: Cambridge, MA.
5. Fugate, J.M.B. & Wilson-Mendenhall, C. (2022). Embodied emotion, emotional granularity and mindfulness: Improved learning in the classroom. In: *Movement Matters: How Embodied*

Cognition affects Classroom Learning. MIT Press: Cambridge, MA.

6. Fugate, J.M.B. (2015). Evolutionary constraints and cognitive mechanisms in the construction of an emotion: Insights from human and nonhuman primates. *The Psychological Construction of Emotion* (Eds. Lisa F. Barrett & Jim Russell). New York: Guilford, pp. 399-426.
7. Fugate, J.M.B. & Barrett, L.F. (2014). Language and emotion. *The Oxford Handbook of Language and Social Psychology* (Ed. Thomas Holtgraves). New York: Oxford University Press. pp. 280-294.
8. Fugate, J.M.B., Lindquist, K.A. & Barrett, L.F. (2013). Emotion generation vs. emotion construction. *The Oxford Handbook of Cognitive Neuroscience Vol. II: The Cutting Edges* (Eds. Kevin Ochsner & Stephen Kosslyn). New York: Oxford University Press, pp. 32- 48.

Social Media/Audio Media/Print Media

1. Cognition Podcast (Rolf Nelson and Joe Hardy) (2022)
2. Mindset Neuroscience (Stephanie Faye) (2022)
3. London Futurists Audio Seminar (David Wood) (2022)
4. New Books Media Podcast (Alice Gardner) (2022)
5. Brain Science Podcast (Ginger Campbell) (2022)
6. Philosophy of Brains Blog (2022) weekly feature
7. "Using movement and sensory perception to improve learning" (May 23, 2022) THE Campus
8. "Meet the scientist studying how vocabulary can improve emotional health" (January 13, 2020) Dartmouth Weekly (Dartmouth, MA)
9. "UMass Dartmouth's Fugate to aid in new Malcolm Gladwell Book" (May 4, 2018) Providence Business News (Providence, RI)
10. "What's so scary about a scream?" (Oct. 24, 2016) Bio Techniques (United States)
11. "UMass Dartmouth welcomes 40 new faculty members" (Sept. 20, 2016). Taunton Daily Gazette (Taunton, MA)

GRANTS RECEIVED (all)

1. PI for student fellowship, 2023-2023 Student Summer Research Fellowship KCU (S/D Goel) Awarded and Student declined. "The Effects of Social Media Usage in Adolescence on Emotional Regulation through Emotional Vocabulary and Granularity". \$4000.00
2. PI, 2022-2022, Provost's Intramural Grant, KCU \$5000.00
3. PI, 2017-2017, Provost's Multidisciplinary SEED Grant, University of Massachusetts Dartmouth, Teaching Emotion Vocabulary to Reduce Emotional Granularity and Improve Emotional Health, \$25,412.00
4. Co-PI, 2016-2016 Curriculum Redesign Grant for Research Methods in Psychology, University of Massachusetts Dartmouth, Redesigning the Psychology Research Methods Lab Curriculum, \$6000.00
5. Recipient, 2015-2016, Open Educational Resources Grant, University of Massachusetts Dartmouth, \$2500.00
6. Recipient, 2013-2014, Blended Learning for the Improvement of Student Learning (IBIS) Grant, University of Massachusetts Dartmouth, \$1500.00
7. PI, 2009-2011 Ruth Kirschstein NRSA (NIMH), The Effect of Emotion Word Priming on the Perception of Emotion, \$102,000.00 [5F32MH083455-02]

GRANTS NOT FUNDED (last 5 years)

1. PI, NSF SBE (*to be resubmitted*). Emotion Word Training Increases Emotional Granularity and Emotional Experience and Perception. \$932,000.00 [collaborative proposal with M. Gendron, Yale, PI]
2. Co-PI, (2022). AMA Innovation Grant Application Mind, Body and Spirit: Using embodied

learning to promote interprofessional education. \$30,000.00 [PI: E. Kennedy, Co-PIs: S. Getch, R. Rogers].

3. PI, NSF DRK (2022) Translating Embodied Cognition for the STEM Classroom: Conference Grant. \$100,000. [with PI Macrine].
4. Co-PI, R34 NIH (2020). Developing and Piloting a Novel Individualized Treatment for Juvenile Justice Youth At-Risk for Suicide. \$707,925.00 [PI: Lamade, co-PI: Richardson].
5. co-PI, American Suicide Prevention Foundation (2021). Teaching Emotion Vocabulary to Reduce the Risk of Self-Injurious Behavior Among Young Adults at Risk. \$300,000 [linked proposal with E. Richardson, co-PI and L. Scott, Pitt Medical, co-PI]
6. co-PI, Booz Allen (2020). Modeling, Predicting, and Assessing Mental Health Needs for Communities Impacted by the Pandemic Using Advanced Analytics and AI. \$265,733. [PI: Sadeghzadeh, co-PIs: Richardson, Lamade, Pounds].
7. Co-PI, R34 NIH (2020). Developing and Piloting a Novel Individualized Treatment for Juvenile Justice Youth At-Risk for Suicide. \$707,925.00 [PI: Lamade, co-PI: Richardson].
8. co-PI, American Suicide Prevention Foundation (2019). Teaching Emotion Vocabulary to Reduce the Risk of Self-Injurious Behavior Among Young Adults at Risk. \$300,000 [linked proposal with E. Richardson, co-PI and L. Scott, Pitt Medical, co-PI]
9. PI, NSF SBE (2019). Emotion Word Training Increases Emotional Granularity and Emotional Experience and Perception. \$932,000.00 [collaborative proposal with M. Gendron, Yale, PI]
10. PI, Private Foundation, Fahs-Beck Fund for Research and Experimentation (2019). Non-suicidal Self-injury and Emotional Granularity, \$17,000.00 [co-PI Richardson].
11. Co-I, R15 NIH (NICD) (2019). Biological and Emotional Processing Factors associated with Context Inappropriate Anger and Implications for Social Functioning, \$419,585.00 [PI: Locke] [co-I: Sims-Knight].
12. Co-PI, Private Foundation, Fahs-Beck Fund for Research and Experimentation, Child Context-Inappropriate Anger and Implications for Social and Health Outcomes (2018). \$20,000.00 [PI: Locke] [co-PI: Sims-Knight].

CONFERENCE PRESENTATIONS (Selected only)

1. Macrine, S., & Fugate, J.M.B. (2023). A Framework for Translating Embodied Cognition for the Learning Sciences. *Brain, Neurosciences Education, SIG. American Educational Research Association*, Chicago IL, [Talk].
2. Fugate, J.M.B., Korbel, E.*, McCurdy, A.*, Powers, E.*, Baci, S.*, Earl, B.* (2023). The Effects of Emotion Language and Granularity on Emotion Perception, Regulation, and Well-Being. *Educating Leaders 2023 AACOM Annual Conference*. April 26-28, 2023 Baltimore, Maryland. [Poster]
3. Tonsager, M.*, & Fugate, J.M.B. (2023). Augmented and virtual reality simulation in medical and nursing education. *Kansas City Research Symposium*. Kansas City, MO. [Poster]
4. Fugate, J.M.B., Baci, S.*, Earl, E.*, Korbel, E.L.*, McCurdy, A.L.*, & Powers, E.A.* (2023). The effects of emotional language and emotion granularity on emotion perception, regulation, and well-being. *Kansas City Research Symposium*. Kansas City, MO. [Poster]
5. Hernandez Cuevas, E.M.*, & Fugate, J.M.B. (2023). The role of embodied cognition in the neurorehabilitation of ischemic stroke. *Kansas City Research Symposium*. Kansas City, MO. [Poster]
6. Rennie, K. & Fugate, J.M.B. (2023). Color Facilitates Naming Ability in Cognitive Impairment *Kansas City Research Symposium*. Kansas City, MO. [Poster]
7. Perhson, A.* Fugate, J.M.B., Karius, D., & Eisenman, D.D. (2023). Does discipline-specific simulated training reduce imposter phenomenon in medical and graduate students? *Kansas City Research Symposium*. Kansas City, MO. [Poster]
8. Vaid, N.*, Fugate, J.M.B., Bailey, C., Sponsel, K., Rippen, S., Bruce, A., Rippee, M. & Bruce, J. (2022). Assessing RECOVER: Response of concussion outcomes to a verified exercise and

- psychological wellness intervention: The RECOVER well pilot study. *Kansas City Research Symposium* [Poster]
9. West, KJ.*, *Fugate, J.M.B.*, Sickel, A., & Shoffner, A. (2022). The juxtaposition of Borderline Personality Disorder and chronic pain. *Kansas City Research Symposium*. Kansas City, MO. [Poster]
 10. *Fugate, J.M.B.* & Macrine, S.L. (2022). Translating Embodied Cognition to the Classroom Symposium Introduction. *American Psychological Society Annual Conference*, Chicago, IL. **[Symposium Chair]**
 11. Kelleher, V., Chenard, S.*, & *Fugate, J.M.B.* (2022). The effect of emotional granularity and emotion word usage on emotion regulation. *American Psychological Society Annual Conference*, Chicago, IL. [Poster]
 12. *Fugate, J.M.B.*, & Kellner, V*, Chenard, S.* (2022). Emotion word learning and emotion granularity. *Society for Social and Personality Psychology Conference, San Francisco and virtual*. [Poster].
 13. *Fugate, J.M.B.*, & Setia, A.* (2021). Race-related labels on the categorical perception of faces. *American Psychological Society Conference, virtual* [Poster].
 14. Setia, A.* & *Fugate, J.M.B.* (2021). Why Do People Perform Collective Action?: Underlying Motivations Behind Offline and Online Activism. *American Psychological Society Conference, virtual* [Poster].
 15. *Fugate, J.M.B.*, MacDonald, C*., & Kellner, V*. (2020). The effect of emotion words on visual awareness using a DFV paradigm. *Society for Affective Science*, San Francisco, CA. [Poster]. Cancelled due to COVID – 19.
 16. Franco, C.* & *Fugate, J.M.B.* (2019) Limited Consistency for Cross-Cultural Color Emotion Pairings. *American Psychological Society Conference*, Washington DC [Poster].
 17. MacDonald, C.* , *Fugate, J.M.B.*, O'Hare, A. (2019). The Effect of Emotion Words on Visual Awareness Using a Divided Visual Field Paradigm. *American Psychological Society Conference*, Washington DC [Poster].
 18. Kershaw, T., *Fugate, J.M.B.* & O'Hare, A. (2019). Empirical research comprehension improves with as few as four sessions of distributed practice. *Society for Applied Research in Memory and Cognition*, Cape Cod, MA [Poster]
 19. MacDonald, C.* , O'Hare, A.J., & *Fugate, J.M.B.* (2019). The role of emotion words on visual awareness of emotional faces using a divided visual field paradigm. *Society for Social and Personality Psychology*, Portland, OR [Poster].
 20. Franco, C.* , & *Fugate, J.M.B.* (2019). Color-Emotion pairings are not the same across Romance languages. *Society for Social and Personality Psychology*, Portland, OR [Poster].
 21. Franco, C.* , Leclair, T.* , Krishna, M.* , O'Hare, A.J., & *Fugate, J.M.B.* (May, 2018). Electronic platforms are not all equal for emoji emotional understanding. *American Psychological Society Conference*, San Francisco, CA [Poster].
 22. Franco, C.* , Krishna, M.* , Emmanuel, W.J.* , & *Fugate, J.M.B.* (May, 2018). Color and Emotion: Assessing consistency and linguistic influences on shared agreement. *American Psychological Society Conference*, San Francisco, CA [Poster].
 23. *Fugate, J.M.B.*, Borowsky, E.* , McLaughlin, B.* , Vallier, A.* , Marum, T*., & Abbas, Z* . (May, 2018). Emotion Word Training Affects Emotional Differentiation and Perception: A Pilot Study. *American Psychological Society Conference*, San Francisco, CA [Poster].
 24. *Fugate, J.M.B.* & Gendron, M. (April, 2018). Constructing emotion through language and culture: Lab and field-based studies. **[Invited Talk]**. *Conference on the Expression, Communication and Origins of Meaning (ECOM)*, Storrs, CT.
 25. *Fugate, J.M.B.* (2017), Semantic vs. Somatic priming of emotion perception. *American Psychological Society*, Boston, MA **[Talk]**.
 26. *Fugate, J.M.B.* (May, 2017), Pushing the Boundaries of Emotion Perception **[Invited Talk/Keynote Speaker]**, Sigma Xi Conference, UMassD, Dartmouth, MA.

27. *Fugate, J.M.B.* (May, 2017), Pushing the Boundaries of Emotion Perception, *American Psychological Society Conference*, Boston, MA [**Symposium Chair**].
28. Borowsky, E.*, Magum, T.*, McLaughlin, B.*, Vallier, A.*, DuFresne, E.*, & *Fugate, J.M.B.* (May, 2017). Does teaching emotional vocabulary improve emotional regulation? *American Psychological Society Conference*, Boston, MA [Poster].
29. Franco, C.*, O'Hare, A., & *Fugate, J.M.B.* (May, 2017). Is the "Angry Emoji" really angry? Consistency between emotions and emojis across electronic platforms. *American Psychological Society Conference*, Boston, MA [Poster].
30. Locke, R., Richardson, E., Kershaw, T., & *Fugate, J.M.B.* (May, 2017). Thoughtfully designing a psychology research methods lab curriculum. *American Psychological Society Conference*, Boston, MA [Poster].
31. Massoud, H.*, Boone, R.T., & *Fugate, J.M.B.* (May, 2017). Somatic vs. semantic influence on emotion perception. *American Psychological Society Conference*, Boston, MA [Poster].
32. *Fugate, J.M.B.*, Emmanuel, W.J.*, & O'Hare, A.J. (January, 2017). An ERP extension of emotion words: Facing change. *Society for Social and Personality Conference*, San Antonio, TX [Poster].
33. Girourd, C.M.*, O'Brien, S.E.*, *Fugate, J.M.B.*, & O'Hare, A. J. (May, 2016). Sustained attention to emotional vs. non-emotional categories, *APA*, Chicago, IL [Poster].
34. *Fugate, J.M.B.*, Emmanuel, W.J.*, Ziino, N.*, Ziperman, M.* (January, 2016). Emotion words: "Facing" change. *Society for Social and Personality Conference*, San Diego, CA. [Poster].
35. *Fugate, J.M.B.*, Franco, C.*, Emmanuel, W.J.*, Bastos, T.* (November, 2015). What color is your anger? *Psychonomic Society Convention*, Chicago, IL [Poster].
36. *Fugate, J.M.B.* (October, 2013). Language and emotion perception, *Department of Psychology, University of Massachusetts – Dartmouth*, Dartmouth, MA [**Talk**].
37. Sloman, J.*, Leiser, J.*, Gendron, M., *Fugate, J.*, Isaacowitz, D., & Barrett, L.F. (April, 2013). In the eye of the beholder? Emotion knowledge impacts gaze to emotional faces. *Research, Innovation and Scholarship Exposition*, *Northeastern University*, Boston, MA. [Poster].
38. Gendron, M., Rotter, A.*, Rahman, A.*, *Fugate, J.*, Nakashima, S.* & Barrett, L.F. (April, 2013). Was she smiling at me? The impact of emotion words on perceptual memory for emotional faces. *Research, Innovation and Scholarship Expo.*, *Northeastern University*, Boston, MA. [Poster].
39. *Fugate, J.M.B.*, Gendron, M., Bessette, K.*, & Barrett, L.F. (February, 2012) Affect primarily determines looking differences among facial depictions of emotion. *Society for Personality and Social Psychology*, San Diego, CA [Poster].
40. *Fugate, J.M.B.* (January, 2012). The role of language on the construction of emotion, *Department of Psychology, Rochester Institute of Technology*, Rochester, NY [**Invited Job Talk**].
41. *Fugate, J.M.B.* (February, 2012). The role of language on the construction of emotion, *Department of Psychology, University of Wisconsin*, Whitewater, WI [**Invited Job Talk**].
42. *Fugate, J.M.B.* (February, 2011). Language and the psychological construction of emotion, *Social, Personality, Affective Meeting*, *Northeastern University*, Boston, MA [**Talk**].
43. *Fugate, J.M.B.*, Barnard, E.*, & Barrett, L.F. (March, 2011). Emotion words create perceptual biases during emotion perception. *American Psychological Society*, Washington DC [Poster].
44. *Fugate, J.M.B.* & Barrett, L.F. (October, 2010). Language as context in emotion perception. *Society for Experimental Social Psychology*, Minneapolis, MN [**Talk**].
45. *Fugate, J.M.B.* & Barrett, L.F. (October, 2010). Emotion perception in context, *Society of Experimental Social Psychology*, Minneapolis, MN [**Symposium Chair**].
46. *Fugate, J.M.B.* (July, 2010). The face and emotion, *Emotion Development Laboratory*, Boston College, Chestnut Hill, MA [**Talk**].
47. *Fugate, J.M.B.* & Barrett, L.F. (May, 2010). Language and emotion perception, *American Psychological Society Conference*, Boston, MA [**Symposium Chair**].
48. Boothby, E., Lynn, S., *Fugate, J.M.B.*, Barrett, L.F. (May, 2010). Language influences facial emotion perception by affecting bias and sensitivity. *American Psychological Society*

- Conference, Boston, MA [Poster].
49. *Fugate, J.M.B. & Barrett, L.F.* (May, 2010). The influence of language on emotion perception. American Psychological Society Conference, Boston, MA [Talk].
 50. *Fugate, J.M.B., Secor, E.*, Barnard, E.*, & Barrett, L.F.* (May, 2010). Emotion words affect the face seen. American Psychological Society Conference, Boston, MA [Poster].
 51. *Fugate, J.M.B., Bessette, K.*, & Barrett, L.F.* (May, 2010). The effect of seen and unseen words on perceptual judgments of emotion. American Psychological Society Conference, Boston, MA [Poster].
 52. *Fugate, J.M.B., Bessette, K.*, & Barrett, L.F.* (January, 2010). Explicitly and implicitly primed emotion words affect emotion perception. Society for Personality and Social Psychology, Las Vegas, NE [Poster].
 53. *Fugate, J.M.B. & Barrett, L.F.* (August, 2009). Verbal labeling and expertise effects on the categorical perception of chimpanzee facial expressions. International Society for Research on Emotion, Leuven, Belgium [Poster].
 54. *Fugate, J.M.B.* (May, 2007). Facial expressions and vocalizations in primates Graduate Research Interdisciplinary Talk Series, Emory University, Atlanta, GA [Talk].
 55. *Fugate, J.M.B. & Gouzoules, H.* (July, 2007). Categorical perception of facial expressions in chimpanzees. International Society for Research on Emotion, Sunshine Coast, Australia [Talk].
 56. *Fugate, J.M.B.* (October, 2007). Perception and interaction of facial expressions and vocalizations in chimpanzees, Cognition & Development Research Seminar, Emory University, Atlanta, GA [Talk].
 57. *Fugate, J.M.B.* (March, 2007). Categorical perception of facial expressions in chimpanzees. International Conference on Comparative Cognition, Melbourne, FL [Talk].
 58. *Fugate, J.M.B.* (January, 2007). Categorical perception of facial expressions in chimpanzees. W.M. Keck Center for Behavioral Biology, Raleigh, NC [Talk].
 59. *Fugate, J. M.B., Parr, L.A., & Heintz, M.** (August, 2006). Sex differences in emotional contagion in the chimpanzee International Society for Research on Emotion, Atlanta, GA [Poster].
 60. *Fugate, J.M.B., Parr, L.A., & Heintz, M.* (June, 2006). Emotional contagion in chimpanzees: The influences of species, cue modality and emotional valence. International Primatological Society, Entebbe, Uganda [Talk].
 61. *Fugate, J.M.B. & Gouzoules, H.* (June, 2004). Identifying individual rhesus macaque noisy screams: Evidence from conspecifics and human listeners. Animal Behavior Society, Oaxaca, Mexico [Poster].
 62. *Binzak, J. M., Gernsbacher, M.A., Budde, M.D., & Kodesh, G.T.* (June, 2002). The role of the right hemisphere in successful comprehension of homonyms. Society for Text & Discourse, Chicago, IL [Poster].
 63. *Binzak, J.M., Budde, M.D., Robertson, D.A., & Gernsbacher, M.A.* (March, 2001). Suppression of irrelevant meanings of homonyms. Cognitive Neuroscience Society, New York, NY [Poster].
 64. *Binzak, J.M., Gernsbacher, M.A., Robertson, D.A., & McKinney, V.D.* (May, 2000). Use of strategy in resolving interference as a result of item difficulty. Midwestern Psychological Association Conference, Chicago, IL [Talk].
 65. *Binzak, J.M., & Kelley, A.E.* (May, 1999). Understanding nicotine addiction as a result of conditioned reinforcement of environmental cues: Effects on locomotor activity and neural plasticity in the brain. Midwestern Psi Chi Undergraduate Research Symposium, Madison, WI [Talk].

COMMITTEE SERVICE (since 2014)

Current Service

1. 2022- *current* Institutional Review Board Member, KCU
2. 2022-*current* Interprofessional Educational Committee Member, KCU

3. 2022-current Research Committee Member, KCU
4. 2022-current Admission Committee PSYD, KCU
5. 2022-current Student Progress Committee PSYD, KCU

Previous Service

1. 2020 – current – Chair of Research Methods Collaborative Psychology
2. 2019 – current – Pre-Health Advisor for Psychology
3. 2019 – current – Social Coordinator for Psychology
4. 2019 -2021 – PhD Proposal Committee for Psychology Member
5. 2017 - 2021– Statistics Collaborative Committee Member
6. 2016 - 2021 – Research Master’s Program Committee Member
7. 2014 - 2021– Undergraduate Academic Curriculum Committee Member
8. 2014 – 2020 –Research Methods Collaborative Committee Member
9. 2018 - 2019 – Psychology Hiring Committee Member
10. 2014 - 2019 – STAR Center Advisor
11. 2014 - 2020 – College of Arts & Science Curriculum Council
12. 2013 - 2019 – CAS 101 Advisory Committee Member
13. 2014 - 2018 – CAS 101 re-design committee Member
14. 2021-2021 – Faculty Federation Executive Board Member
15. 2019 – 2021- Service Learning Fellowship Awardee, UMassD Leduc Center
16. 2019 -2021– Faculty Senate Social Sciences Steering Committee Elected Member
17. 2018 - 2021 – Office of Undergraduate Research Advisory Board Appointed Member
18. 2017- 2021 –Faculty Senate Elected Member-at-Large
19. 2014 - 2021 –IACUC Appointed Member
20. 2018 - 2020 – Faculty Senate University Curriculum Council Elected Member
21. 2018 & 2019 – Graduate Commencement ceremony reader
22. 2014 - 2016 –Scholar of the Year Committee for the Faculty Federation Elected Member
23. 2015 - 2018 –Faculty Federation Women’s Council Elected Member
24. 2014 - 2016 –Teacher of the Year Committee for the Faculty Federation Elected Member

THESIS AND DISSERTATION CHAIR

1. Eva Hernandez Cuevas (KCU, PSYD candidate) *current 2025*
2. Aaron Perhson (KCU, PSYD candidate) *current 2025*
3. Katie Rennie (KCU, PSYD candidate) *current 2025*
4. KariJo West (KCU, PSYD candidate) *current 2024*
5. Nikhil Vaid (KCU, PSYD candidate) *current 2024*
6. Victoria Kelleher (MA thesis candidate, UMassD) 2023
7. Scott deSena (MA thesis, UMassD) 2021
8. Stephanie Chenard (MA thesis, UMassD) 2020
9. Courtney Franco (MA thesis, UMassD) 2018

MEMBERSHIP IN PROFESSIONAL SOCIETIES

1. Society for Affective Science (2018 - *current*)
2. American Psychological Society (2008 - *current*)
3. Society for Personality and Social Psychology (2008 – *current*)
4. American Psychological Association (2008- *current*)
5. International Society on the Research of Emotion (2006 - 2016)

ADDITIONAL PROFESSIONAL SERVICE & SCHOLARSHIP

1. Ad hoc Reviewer: *Journal of Personality and Social Psychology, Emotion, Emotion Review, Cognition and Emotion, Cognitive Processes, International Society for Educational and School Psychology, British Journal of Psychology, Quarterly Journal of Psychology, Journal of Nonverbal*

Behavior, Current Psychology, PLOS ONE, Journal of Cognitive Psychology, American Journal of Psychology, Frontiers in Psychology

2. Editor, Special Issue of *Frontiers in Psychology*, Emotional Granularity and Emotional Well-Being (2021)

3. Consulted with Malcolm Gladwell on his new book, "*Talking to Strangers*" / FACS (Facial Action Coding System) coder (2019)

Media coverage: <https://www.umassd.edu/feature-stories/2018/jenfugate.html>

<https://pbn.com/umass-dartmouths-fugate-to-aid-in-new-malcolm-gladwell-book/>

4. Edited textbook chapter on language and cognition for *Principles of Psychology* by S. Marc Breedlove (Sineaur) (2017)

5. Nonhuman Rights Project scientific witness/written affidavit for Nonhuman Right Project (NhRP). Petition for habeas corpus on behalf of (2013-2014):

<http://www.nonhumanrightsproject.org/category/courtfilings/>

Media coverage (selected):

http://www.huffingtonpost.com/2013/12/02/chimpanzee-lawsuit-personhood_n_4369377.html

<http://www.bbc.com/news/world-us-canada-25211859>

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EXHIBIT B

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EXHIBIT B

References:

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- Parr, L.A., Cohen, M., & de Waal, F. B. M. (2005). The influence of social context on the use of blended and graded facial displays in chimpanzees. *International Journal of Primatology*, 26, 73-104.
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EXHIBIT 4

RECEIVED by MCOA 4/23/2024 9:03:40 AM

DECLARATION OF DR. TETSURO MATSUZAWA

I, Tetsuro Matsuzawa, Ph.D., declare as follows:

1. My name is Tetsuro Matsuzawa. I reside and work in Kyoto, Japan. I was awarded a Ph.D. in Science from Kyoto University in 1989.

2. I submit this Declaration in support of the Nonhuman Rights Project, Inc.'s complaint for a writ of habeas corpus regarding the captive chimpanzees at DeYoung Family Zoo. I am a non-party to this proceeding.

3. I am currently a Visiting researcher in Psychology at the California Institute of Technology, Pasadena, CA, US. I am also the academic advisor of Chubu-Gakuin University, Gifu, Japan. I was a distinguished professor at Kyoto University till 2020 and was the Director of the Primate Research Institute of Kyoto University in 2006-2012. I was also the Director of the Center for International Collaboration and Advanced Studies in Primatology at Kyoto University in 2009-2012, which promotes scientific research across disciplines and collaborators.

4. I was the President of the *International Primatological Society* in 2012-2016. I have sat on the editorial board of *The Royal Society, Philosophical Transactions B. UK*. I am currently an associate editor or editorial board member of the following academic journals: *Animal Cognition*, *Animals*, *Interaction Studies*, *International Journal of Psychology*, and *International Journal of Primatology*. I took the role of the Editor-in-Chief of *Primates* in 2014-2020, which is the oldest English journal of Primatology founded in 1957.

5. I was the Chair of the Scientific Program for the 2016 *International Congress of Psychology*. I am the recipient of several professional honors including the Prince Chichibu Memorial Award for Science in 1991, the Jane Goodall Award in 2001, and the Person of Cultural Merit in 2013 (the highest honor for scientists in Japan).

6. My specialization is in chimpanzee intelligence both in the wild and in the laboratory. I have studied tool use in wild chimpanzees in West Africa (Bossou-Nimba, Guinea) since 1986. I have been to the Bossou-Nimba 30 times in total from 1986 to 2019. I have recorded the history of the fully habituated chimpanzee community at Bossou, which is one of the five major research sites for wild chimpanzees (the others are Gombe, Mahale, Kibale, and Tai). I also continue the field study of unhabituated wild chimpanzees in the Nimba mountains, 10 km away from Bossou. I am a field worker who knows chimpanzees in their natural habitat.

7. I have been the Director of the ongoing laboratory study of captive chimpanzees known as the “Ai-project” from 1978 till 2020. The “Ai-project” focuses on language-like skills and the understanding of numbers in a female chimpanzee named Ai. Her son Ayumu and three generations of chimpanzees constitute one of the longest-running laboratory research projects on chimpanzee intelligence. The YouTube video of Ai and Ayumu has more than 20,290,000 views: see <https://www.youtube.com/watch?v=ktkjUjcZid0>. Thus, the combination of field and laboratory studies provides me with a uniquely comprehensive and in-depth view of chimpanzee intelligence.

8. I have written or co-edited 4 books published in English including: *Primate Origins of Human Cognition and Behavior* (2001, Springer), *Cognitive Development in Chimpanzees* (2006, Springer), *The Mind of the Chimpanzee: Ecological and Experimental Perspectives* (2010, University Of Chicago Press), and *The Chimpanzees of Bossou and Nimba* (2011, Springer-Nature).

9. As of November 7, 2023, I have published many scientific articles listed on Google Scholar. All of them are peer-reviewed scientific journal articles or book chapters in English. The total number of citations is 21,340 times: The h-index is 78 and the i10 index is

254. The scientific articles are on the cognition, intelligence, development, and welfare of chimpanzees and other primates in the world's most prominent scientific journals: *Nature*, *Science*, *Proceedings of the National Academy of Sciences*, *Current Biology*, *International Journal of Primatology*, *American Journal of Primatology*, *Primates*, *Folia Primatologica*, *American Journal of Physical Anthropology*, *Animal Cognition*, *Animal Behaviour*, *Animals*, *Methods in Ecology and Evolution*, among others. The specific topics I have researched and written about on chimpanzees include tool-making and use, culture, memory of numerals, facial perception, caregiving, development and maturation, aging and grandmother behavior, food sharing, handedness, gaze following, and categorization and classification of colors and objects.

10. I have given over 60 invited talks at international venues in countries such as Austria, Australia, Canada, China, Belgium, Bhutan, Brazil, France, Germany, Guinea, India, Kenya, Korea, Italy, Japan, Malaysia, Mexico, New Zealand, Norway, Poland, Portugal, Scotland, Spain, Switzerland, the United Kingdom and the United States, Uruguay, Vietnam, Zambia, among others. I continue to regularly give both local and international presentations at academic conferences, wildlife conservation meetings, and other scientific venues. My Curriculum Vitae fully sets forth my educational background and experience and is annexed hereto as "**Exhibit A.**"

Basis for Opinions

11. The opinions I state in this Declaration are based on my professional knowledge, education, training, and over 46 years of laboratory research and fieldwork with chimpanzees, as well as my review of peer-reviewed literature about primatology published in the world's most respected journals, periodicals and books that are generally accepted as authoritative in the field of primatology, many of which were written by myself and colleagues with whom I have worked

for many years and whose research and fieldwork I am personally familiar with. A full reference list of peer-reviewed literature cited herein is annexed hereto as “**Exhibit B.**”

Opinions

12. Chimpanzees are autonomous beings with complex cognitive abilities. 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 analyzing their behavior.

A. Chimpanzees are autonomous beings with complex cognitive abilities

13. **Brain size and similarity:** As chimpanzees and humans share close to 99% of their DNA, their brains are very similar (Semendeferi and Damasio, 2000). Several shared characteristics in the brain are relevant to such capacities as self-awareness and autonomy as well as general intelligence. Both chimpanzees and humans have larger brains than expected for their body size (Armstrong, 1985; Bauchot and Stephan, 1969; Bronson, 1981). This means chimpanzees and humans have evolved to possess above-average mental abilities compared with other species of the same body size. Both share similar circuits in the brain that are involved in language and communication (Gannon, Holloway, Broadfield, and Braun, 1997; Tagliabattola, Russell, Schaeffer, Hopkins, 2008; see below). Both have evolved large frontal lobes of the brain, which are intimately involved in the capacities for insight and foreplanning (Semendeferi and Damasio, 2000). Both share several highly specific cell types that are thought to be involved in higher-order thinking (see below) and chimpanzee and human brains also share several

important functional characteristics related to the sense of self. Finally, both human and chimpanzee brains are similar in terms of how the brain develops and matures, indicating that chimpanzees and humans go through similar cognitive developmental stages.

14. **Developmental change of brain:** Developmental delay (a long protracted period of brain development over many years) is a key feature of human brain evolution and is thought to play a role in the emergence of complex cognitive abilities, such as self-awareness, creativity, foreplanning, working memory, decision making, and social interaction. Delayed development of the brain, and specifically the prefrontal cortex, provides a longer period in which this part of the brain may be shaped by experience and learning (Furster, 2002; Goldberg, 2002; Sakai et al, 2011). Likewise, chimpanzee brains exhibit a very similar level of developmental delay in the prefrontal cortex, leading to the neuroanatomical basis for such high-level capacities as self-awareness, forethought, decision-making, and working memory in chimpanzees (Passingham et al., 2004; Sakai et al., 2010; 2011). Consistent with these similar functions in humans and chimpanzees, chimpanzee infants share some common mental features and patterns with human infants (Bard et al., 2021; Matsuzawa et al., 2006; Matsuzawa, 2007). These features include how mothers and infants interact and use social smiling and mutual gaze (looking into each other's eyes) as ways of strengthening their bond (Tomonaga et al., 2004) as well as how and when they first start to manipulate objects, which is related to their shared capacity for tool-making and use (Hayashi and Matsuzawa, 2003).

15. **Brain asymmetry:** One of the hallmarks of sophisticated communication and even language-like capacities is brain asymmetry. In humans, the left and right parts of the brain have different shapes which are related to language capacities. Furthermore, these brain asymmetries are correlated with handedness. That is, most humans are right-handed and process

language in the left hemisphere. This is referred to as a “population-level right-handedness.” Studies of the anatomy of the brain reveal that chimpanzees possess very similar patterns of asymmetry (Cantalupo and Hopkins, 2001; Dadda, Cantalupo, and Hopkins, 2006; Gannon, Holloway, Parr, and Hopkins, 2004). Furthermore, chimpanzees exhibit population-level right-handedness in captivity (Hopkins et al., 2010; Tonooka and Matsuzawa, 1995) as well as in patterns of tool use in the wild (Humle and Matsuzawa, 2009). These overall findings point to a key similarity in the way chimpanzee and human brains are structured, particularly in ways that are relevant to language and communication.

16. **Spindle cells in the brain:** Further evidence for the similarity between human and chimpanzee brains comes from the finding that they both possess a specialized type of cell – known as a spindle cell – in the same area of the brain. This area, known as the anterior cingulate cortex is involved in emotional learning, the processing of complex social information, decision-making, awareness, and, in humans, speech initiation. Therefore, the presence of spindle cells in both chimpanzees (and other great apes) and humans strongly suggests they share a number of these higher-order brain functions (Allman et al., 2011; Hayashi et al., 2001).

17. **Language comprehension:** Language is a volitional process in humans that involves creating intentional sounds for communication and is, therefore, a reflection of autonomous thinking and behavior. Findings regarding functional aspects of the chimpanzee brain demonstrate volitional control over their vocalizations as well. Certain sounds are produced by chimpanzees selectively to capture the attention of an inattentive audience (Hopkins et al., 2007). These sounds are produced almost exclusively in the presence of an audience and are, therefore, under volitional control as they serve the purpose of informing others about the presence of various items, such as food or a play object or tool. Not only do chimpanzees create

purposeful vocalizations, like humans, but their brains respond differently to their names than other sounds. In a study of brain wave EEG patterns, one captive chimpanzee, ‘Mizuki’, showed specific brain wave responses to the sound of her name, suggesting that this response might signify self-relevance in chimpanzees as for humans. Her name may have evoked a specific memory, emotion, or mental representation (Ueno et al., 2009).

18. **Vocal communication:** Recent studies of wild chimpanzees reveal their rich repertoire of voices and vocal communication. The data from wild populations is critical to building a comprehensive and accurate understanding of the communicative and cognitive abilities of our closest living relatives, and to tracing the evolutionary roots of human language (Slocombe and Zuberbühler, 2010; Slocombe et al., 2022). For example, bark vocalizations produced before hunt initiation are reliable signals of behavioral motivation, with barkers being most likely to participate in the hunt. Barks are associated with greater hunter recruitment and more effective hunting, with shorter latencies to hunting initiation and prey capture (Mine et al., 2022). The coevolutionary relationship between vocal communication and group-level cooperation is not unique to humans in the ape lineage and is likely to have been present in our last common ancestor with chimpanzees.

19. **Gestural communication:** Recent studies of wild chimpanzees reveal their rich repertoire of gestural communication (Hobaiter and Byrne, 2014). For example, observations of the Ngogo community in Kibale National Park, Uganda, indicate that wild chimpanzees use ‘directed scratches’ to request grooming of specific body areas. The gesture involved one chimpanzee making a relatively loud and exaggerated scratching movement on a part of his body, which could be seen by his grooming partner (Pika and Mitani, 2014), and the recipient of the signal who has an understanding of the intended meaning of the gesture. Wild chimpanzees use

gestures to specify an area of the body to be groomed and to depict a desired future action. The gestures therefore qualify as referential and iconic and reflect greater signal specificity than related gestures such as ‘raise arm’ and ‘present back’ (Goodall, 1986), which request grooming of larger body areas that are difficult to access. The gestural repertoire shown in wild chimpanzees provides the basis of the two-way communication between humans and chimpanzees through American Sign Language (Gardner and Gardner, 1969).

20. **Self-awareness:** The concept of self is an integral part of the ability to have goals and desires, intentionally act towards those goals and desires, and understand whether those goals and desires are satisfied or not. There is abundant and robust evidence that chimpanzees possess a sense of self, as they have repeatedly demonstrated the ability to recognize themselves in mirrors (Gallup, 1970; Povinelli et al., 1993) and show several capacities that stem from being self-aware, such as metacognition, that is, the ability to think about and reflect upon one’s thoughts and memories (Beran et al., 2013; Call, 2010; Call and Carpenter, 2001). For instance, when given a task in which the identity of a food item is a critical piece of information needed to obtain a reward, chimpanzees, like humans, first check a container they are unfamiliar with before making their choice. Chimpanzees show efficient information-seeking behavior that strongly suggests they are aware of what they know and do not know (Beran et al., 2013). Like human children, chimpanzees know when they have enough visual information to complete a task (Call and Carpenter, 2001), and they also know that they could be wrong about the information they have and, again like human children, will check if they are uncertain (Call, 2010). All of these abilities are related to self-monitoring and self-reflection in chimpanzees as in humans.

21. **Distinction of self and others:** The ability to distinguish actions and effects caused by oneself from events occurring in the external environment is called “self-agency” and is a fundamental component of autonomy and purposeful behavior. Chimpanzees can distinguish between the movement of an object, e.g., a computer cursor controlled by themselves, and motion caused by someone else. These and many other similar findings demonstrate that chimpanzees and humans share the fundamental cognitive processes underlying the sense of being an independent agent (Kaneko and Tomonaga, 2011).

22. **Understanding other minds:** Not only do chimpanzees reflect upon their thoughts and states of knowledge but they also understand the minds and experiences of others. For instance, chimpanzees can not only imitate the actions of others but anticipate the intentions of others when watching a human or another chimpanzee try to complete a task (Myowa-Yamakoshi and Matsuzawa, 2000). Chimpanzees know what others can and cannot see (Hare et al., 2000, 2001). Chimpanzees know when another’s behavior is accidental or intentional (Call and Tomasello, 1998; Call et al., 2004). Chimpanzees use their knowledge of others’ perceptions tactically to deceive other chimpanzees and obtain hidden food (de Waal, 2005; Hirata and Matsuzawa, 2001). In situations where two chimpanzees compete for hidden food, they show several strategies and counter-strategies to throw each other “off the trail” and obtain the food for themselves (Hirata and Matsuzawa, 2001). This kind of complexity in understanding others’ minds is key evidence that chimpanzees are aware of their own minds and those of others.

23. **Empathy:** Chimpanzees who were shown videos of other chimpanzees yawning or just showing open-mouth facial expressions that did not yawn, showed higher levels of yawning in response to the yawn videos but not to the open-mouth displays (Anderson et al., 2004). These findings are very similar to contagious yawning effects observed in humans and are

thought to be based on the capacity for empathy, the ability to put oneself in another's situation. Contagious yawning in chimpanzees provides even further evidence that they possess very complex levels of self-awareness and empathic abilities. Chimpanzees are known to spontaneously provide contact comfort to recent victims of aggression, a behavior known as consolation. Similar behavior in human children is attributed to empathic or sympathetic concern (Romero et al., 2010).

24. **Number concept:** Numerosity judgment, the ability to understand numbers as a sequence of quantities, requires not only sophisticated working memory (to keep numbers in mind) but also a conceptual understanding of a sequence, which is closely related to mental time travel (thinking about something in the future) and planning out the right sequence of steps towards a goal, two critical components of autonomy. Not only do chimpanzees excel at understanding sequences of numbers but they understand that Arabic symbols ("2", "5", etc.) represent discrete quantities, outperforming humans in some of these tasks (see below). Sequential learning can be defined as the ability to encode and represent the order of discrete items occurring in a sequence (Conway and Christianson, 2001). Sequential learning is critical for human speech and language processing, the learning of action sequences, or any task that requires putting items into an ordered sequence. Chimpanzees can count or sum up arrays of real objects or Arabic numerals (Beran et al., 1998; Beran and Rumbaugh, 2001; Boysen and Bernston, 1989; Matsuzawa, 1985; Rumbaugh et al., 1987) and display the concepts of ordinality and transitivity (the logic that if $A > B$ and $B > C$, then $A > C$) when engaged in numerical tasks, demonstrating a real understanding of the ordinal nature of numbers (Boysen et al., 1993). Chimpanzees also understand proportions (e.g., $1/2$, $3/4$, etc.) (Woodruff and Premack, 1981). Chimpanzees can learn to name (using a symbol-based computer keyboard) the number, color,

and type of object shown on a computer screen (Matsuzawa, 1985). They can use a computer touch screen to count from 0 to 9 in sequence (Inoue and Matsuzawa, 2007; Kawai and Matsuzawa, 2000; Tomonaga and Matsuzawa, 2000). Most recently, a study showed that chimpanzees can master the sequential order of Arabic numerals from 1 to 19 (Muramatsu and Matsuzawa, 2023). Chimpanzee Ai can understand the concept of zero, using it appropriately in an ordinal context (Biro and Matsuzawa, 2001). These studies suggest further similarity in the way numbers and sequences are conceptualized in chimpanzees and humans.

25. **Working memory:** Not only do chimpanzees understand numbers and sequences, their working memory of numbers is superior to that of adult humans. Working memory (or, short-term memory) is the ability to temporarily store, manipulate, and recall items (numbers, objects, names, etc.). In other words, working memory has to do with how good someone is at keeping several items in mind at the same time. Working memory tasks require monitoring (i.e., manipulation of information or behaviors) as part of completing goal-directed actions in the setting of interfering processes and distractions. The cognitive processes needed to achieve this include attention and executive control (reasoning, planning, and execution). Chimpanzees were shown the numerals 1-9 spread randomly across a computer screen. The numbers appeared for a very limited duration (210, 430, and 650 milliseconds and then were replaced by white squares, which had to be touched in the correct order (1-9). In another version of the task, as soon as the chimpanzees touched the number 1, the remaining numerals were immediately masked by white squares. To complete the task they had to remember the location of each concealed number and touch them in the correct order. The performance of chimpanzees on these memory tasks was not only accurate but much better than that of human adults, who could not even complete most of the versions of the task (Inoue and Matsuzawa, 2007; Muramatsu and Matsuzawa, 2023).

Therefore, chimpanzees have an extraordinary working memory capability for numerical recollection, better than that of adult humans, which underlies several mental skills related to mental representation, attention, and sequencing.

26. **Tools and technology:** Chimpanzees utilize their intelligence to learn various kinds of tools for their survival. Jane Goodall first found that chimpanzees use twigs to fish termites in the mound (in Gombe, Tanzania, van Lawick-Goodall, 1968). Chimpanzees in West Africa use hammer stones and anvils to crack open nuts (in Tai, Cote d'Ivoire, Boesch and Boesch, 1990; in Bossou, Guinea, Sugiyama and Koman, 1979). Chimpanzees in the Goualougo Triangle, located in the Republic of Congo, use tools to perforate termite nests, puncture termite nests, pound for honey, and use leafy twigs for rain cover. They use tool sets and a high degree of tool-material selectivity for particular tasks (Sanz and Morgan, 2007). Thus chimpanzees in the wild have a cultural tradition unique to each community (McGrew, 1992; Whiten et al, 1999). The learning process of cultural tradition is called "Education by master apprenticeship" (Matsuzawa et al., 2001). It is a form of observational learning that involves the mother as the primary teacher. This form of education is based on bonding and identification, and it is not limited to the mother-infant relationship. Infants learn from juveniles and juveniles learn from adults (Biro et al., 2003). The culture and education of wild chimpanzees suggest that chimpanzees do not have formal schooling, but they learn through observation and imitation of their mothers and other members of their social group. The theory also highlights the importance of long-term learning in the development of cognitive abilities and the affiliative mother-infant bond in chimpanzees.

B. Essential considerations for keeping chimpanzees in captivity

27. **Aggressive nature:** Field observations of chimpanzees (*Pan troglodytes*) and

bonobos (*Pan paniscus*) provide valuable comparative data for understanding the significance of conspecific killing. There is a collective effort to compile information from 18 chimpanzee communities and 4 bonobo communities studied over 50 years (Wilson et al, 2014). The data include 152 killings (n =58 observed, 41 inferred, and 53 suspected killings) by chimpanzees in 15 communities and only one suspected killing by bonobos. In conclusion, males were the most frequent attackers (92% of participants) and victims (73%); most killings (66%) involved intercommunity attacks; and attackers greatly outnumbered their victims (median 8:1 ratio). Variation in killing rates was unrelated to measures of human impacts such as deforestation or provisioning. The results are compatible with adaptive explanations for killing by chimpanzees, that means, lethal violence is the result of adaptive strategies in which killers ultimately gain fitness benefits by increasing their access to resources such as food or mates. Because of this aggressive tendency, it is not an easy task to keep multiple males in the same place such as zoos and sanctuaries. It is necessary to build a careful plan of introducing males to an existing community one by one and step by step (Morimura et al, 2007).

28. **Chimpanzees have a male philopatric society.** Male philopatry is a very important point and is often neglected in zoo communities. Male philopatry refers to a behavioral pattern where the males of a species continue to stay in the natal community where they were born. Male chimpanzees have a strong bond with their mothers; they stay with their mothers their entire lives. In contrast, female chimpanzees disperse from their natal communities; they immigrate to neighboring communities after reaching puberty around 8 to 10 years old, which is adaptive behavior explained in terms of incest avoidance. Therefore, in a captive group of chimpanzees, males should have the patrilineal lineage of grandfather-father-son, while females should be relocated to other places to avoid incest since interbreeding may result in serious

genetic diseases. In many of the approximately 5,000 species of mammals (500 of which are primates, which include humans), female philopatry is common, such as in elephants, lions, and macaques. Chimpanzees are a rare case of male philopatry. Human society looks more or less similar to the male-philopatry and female-dispersal one such as those in chimpanzees.

29. **Longevity: How long do chimpanzees live?** According to the data accumulated from 1921 to 2018 in Japan, chimpanzees in captivity live for 45 years on average (Havercamp et al., 2019). The survival rates are no different for captive chimpanzees in the United States (Che-Castaldo, 2021). The maximum longevity of chimpanzees in Japan was recorded on January 15, 2019, when the longest-living individual, a wild-born male named Jhonny estimated to be 68 years old, passed away at the Kobe Oji Zoo. Chimpanzees in the wild survive for 50 years or more (Thompson et al., 2007). Our study compared age-specific fertility patterns calculated from 534 chimpanzee births and 3416 female risk years with equivalent demographic data from two well-studied human foraging populations, the !Kung of Botswana and the Ache of Paraguay. In all datasets, age-specific fertility formed an inverted U shape, characterized by lower birth rates at the beginning and end of the reproductive life span. Compared with humans, chimpanzees reproduced more broadly across the life cycle, experiencing an earlier onset of fertility (giving the first birth at the age of 10-14 years old). Reproductive performance began to decline at a similar age group in chimpanzees and humans (25–35 years old) and approached zero at approximately the same age (at about 50 years old). In captivity, the life history of female chimpanzees must be accounted for in order to find them the right place to live. The most recent study in Ngogo, Uganda, showed that wild chimpanzees may survive for more than 60 years and have a long post-reproductive period after menopause (Wood et al., 2023).

30. **GAIN: Great Ape Information Network.** I took the leading role in starting

GAIN in Japan in 2002 (see <https://shigen.nig.ac.jp/gain/top.jsp>), a database of all individual apes living in Japan. Each ape in Japan is registered and has an ID number. On the Gain website, one can see that as of November 7, 2023, there are 291 chimpanzees living in 45 facilities in Japan. One can also find information about where they live and their family lineage. Similar to GAIN, the Lincoln Park Zoo in Chicago started the “ChimpCare” program in 2009. However, the United States does not list all individual chimpanzees, such as those kept in so-called “roadside zoos” or are privately owned as pets. Keeping a record of each chimpanzee is needed to ensure the physical and psychological well-being of captive chimpanzees.

31. **Enriched environment:** Because chimpanzees are autonomous and highly cognitively complex, they need to live in a socially and physically enriched environment. Here I discuss what a physically enriched environment should look like in captivity, focusing on three important points. First, height: chimpanzees need high climbing frames because they are an arboreal species; they spend hours in trees in the wild. Second, multiple habitats: chimpanzees need multiple connecting habitats—such as outdoor compounds and cages connected by the corridors—since they live in a “fission-fusion” society. (A regional community consists of several parties that change members, whereas in chimpanzee communities, chimpanzees need the freedom to move from one place to the next with changing partners. A troop of macaque monkeys or a group of gorillas, for example, can be kept in one place because they form a group and always move together; however, chimpanzees should *not* be kept in one place because they need to have fission-fusion parties.). Third, outdoor environment: chimpanzees need access to the sun, water, and various plants and vegetation. An appropriate outdoor environment is essential for meeting the complex needs of chimpanzees. In the wild, the fundamental freedom of chimpanzees is twofold: the freedom of moving and the freedom of eating. The biotope on land

allows chimpanzees to consume grass, shrubs, bark, and other vegetation. It should be noted that many zoos provide chimpanzees with the fundamental freedom of eating but the feeding time is strictly controlled by caretakers, not by the chimpanzees. In that sense, the freedom of eating is not really free like in the wild. So far, many zoos have failed to provide chimpanzees with multiple connecting habitats, thus depriving them of the fundamental freedom of moving. The WISH cages of Kyoto University might be a model example of keeping chimpanzees healthy in captivity (Matsuzawa, 2020b). At this chimpanzee facility, there is a group of 11 chimpanzees in three generations who are living in a socially and physically enriched environment. Two key points: there are 15-meter-high climbing frames and corridors connecting multiple habitats.

C. Summary and conclusion

32. Chimpanzees are autonomous and highly cognitively complex beings, possessing complex physical, psychological, and social needs. When held in captivity, chimpanzees must be kept in a suitable environment that can meet their complex needs, including:

- a) **Freedom to socialize.** Chimpanzees have a fundamental need to socialize as part of their daily life: including by greeting, grooming, and moving together with other chimpanzees. Because chimpanzees are extremely social beings, they should not be isolated from one another. Thus in captivity, it is imperative that chimpanzees can engage in appropriate and meaningful social interactions with other chimpanzees.
- b) **Freedom to move.** Chimpanzees have a fundamental need to move freely. In captivity, this means chimpanzees need: (1) Access to climbing frames: since chimpanzees are an arboreal species, they require outdoor compounds with high climbing structures exceeding more than 10 meters in height. (2)

Sufficient habitat size: average population density in the wild is about 2-3 chimpanzees per square kilometer (one square kilometer = 100 hectares). It might be reasonable to keep the captive condition which is the down-sized to the wild, at least 1 out of 100. Thus, I recommend 2-3 chimpanzees in 1 hectare (100 by 100 m habitat). (3) Access to natural elements: chimpanzees need outdoor access to the sun, running water, plants, and other natural vegetation. (4) Multiple connecting habitats: due to the fission-fusion nature of chimpanzee social structure, chimpanzees need access to multiple habitats connected by corridors to allow them to move freely between different places.

- c) **Freedom to forage.** Chimpanzees have a fundamental need to forage freely. In the wild, chimpanzees have the freedom to choose when to eat, what to eat, and where to eat. However, chimpanzees are often denied this ability to forage freely in artificial environments such as zoos, where feeding decisions are made by human caretakers. In the appropriate sanctuaries, where there is natural vegetation such as grass, shrubs, trees, etc., chimpanzees can freely access edible items.

33. The failure to meet these essential needs of chimpanzees causes them to suffer physically and psychologically.

34. Having reviewed the videos and photos of some of the chimpanzees at the DeYoung Family Zoo, see <https://rb.gy/57pbv>, which I have reviewed, the current situation for the chimpanzees at the zoo seems far from acceptable. It does not appear that the DeYoung Family Zoo can provide chimpanzees with a normal life appropriate for their species. Accordingly, in my professional opinion, the chimpanzees confined at the zoo should be

relocated to a chimpanzee sanctuary accredited by the Global Federation of Animal Sanctuaries, where their autonomy and complex needs can be met.

I declare under penalty of perjury under the laws of the state of Michigan that the foregoing is true and correct, and that I am physically located outside the geographic boundaries of the United States, Puerto Rico, the United States Virgin Islands, and any territory or insular possession subject to the jurisdiction of the United States.

Executed on

10 day of November, 2023
(date) (month)

Kyoto, Kyoto Prefecture,
(city or other location, and state)

Japan
(country)

Tetsuro Matsuzawa, Ph.D

T. Matsuzawa
(signature)

EXHIBIT A

RECEIVED by MCOA 4/23/2024 9:03:40 AM

Last Update: November 7th, 2023

CV: Tetsuro Matsuzawa



Major: Psychology, *Comparative Cognitive Science*, Primatology, Equinology.

Title: Ph.D. from Kyoto University. The Person of Cultural Merit, Japan.

ORCID ID: 0000-0002-8147-2725

Short Bio: Tetsuro Matsuzawa has been studying chimpanzees both in the laboratory and in the wild. The laboratory work is known as the "Ai-project" in the Primate Research Institute of Kyoto University since 1977: A female chimpanzee named Ai learned to use Arabic numerals to represent numbers (Matsuzawa, 1985, *Nature*). The fieldwork has been carried out in Bossou-Nimba, Guinea, since 1986, focusing on the tool use and the culture in the wild. Matsuzawa tries to synthesize the field and the lab work to understand the mind of chimpanzees to know the evolutionary origins of the human mind. He published the English books such as "*Primate Origins of Human Cognition and Behavior*", "*Cognitive Development in Chimpanzees*", "*The Minds of the Chimpanzees*", and "*The Chimpanzees of Bossou and Nimba*". He got several prizes including The Prince Chichibu Memorial Award in 1990, the Jane Goodall Award in 2001, The Medal with Purple Ribbon in 2004, and The Person of Cultural Merit, Japan in 2013.

Related websites: <https://kuias.kyoto-u.ac.jp/e/profile/matsuzawa/>

Green Corridor Project (wild chimpanzees): <https://www.greencorridor.info/>

YouTube, The cognitive tradeoff hypothesis:

<https://www.youtube.com/watch?v=ktkjUjcZid0>

The video has been viewed over 20,280,000 times as of November 7th, 2023

Name: Tetsuro Matsuzawa (Matsuzawa is the family name)

Nationality: Japanese. Born in Japan.

Date of birth: October 15, 1950, Birthplace: Matsuyama, Ehime, Japan

Current occupation:

Academic Advisor, Chubu Gakuin University, Gifu, Japan

Visitor in Psychology, Division of the Humanities and Social Sciences, California
Institute of Technology, Pasadena, CA, USA

Visiting scientist of the Project to Attract Foreign Expert of China (G2022040013L), 引进
高端外国专家. College of Life Sciences, Xi'an University, Xi'an, China

Contact information:

Personal email: tetsuro.matsuzawa@gmail.com (I prefer this email address)

Caltech email: tetsurom@caltech.edu

Kyoto University email: matsuzawa.tetsuro.8w@kyoto-u.jp

Mobile Phone: 81-80-2623-3705

Mailing address (home):

Tetsuro Matsuzawa, 31-401 Nakano-Cho, Kyoto 604-0032, Japan

Educational and Professional History

Degrees:

March 1974. Graduated from Faculty of Letters, Kyoto University (Psychology major)

March 1976 (March 23) Master's Degree in Psychology, Kyoto University

March 1989 (January 23) Ph. D. in Science (Zoology), Kyoto University

Professional records:

December 16, 1976 - March 31, 2016. Primate Research Institute of Kyoto University (KUPRI): Assistant Professor started in 1976, Associate Professor started in 1987, and Full Professor started in 1993 and till the retirement in March 2016. Also the Director of KUPRI in 2006-2012.

April 2016 - November 2020 Distinguished Professor of Kyoto University.

Distinguished Professor of the Institute for Advanced Study, with Joint Appointment as adjunct Professor, Primate Research Institute of Kyoto University, Japan

April 2001 – Present, Academic advisor, Chubu Gakuin University, Japan

July 2021 – Present, Visiting scientist in Psychology, California Institute of Technology
September 2022 -Present, Visiting scientist, College of Life Sciences, Northwest University, Xi'an, China

Current Positions and Professions (on November 7th 2023)

Academic advisor, Chubu Gakuin University (2001-)
Visiting scientist in Psychology, California Institute of Technology (2021-)
Visiting scientist, College of Life Sciences, Northwest University, Xi'an, China (2022-)
CARTA member, University of California San Diego, USA (1999-)
IUCN member, Species Survival Plan on Primates, Section of Great Apes (2008-)
Associate Editor, *Interaction Studies* (2004-)
Editorial Board, *International Journal of Psychology*, IUPsyS (2016-)
Editorial Board, *International Journal of Primatology* (2012-)
Editorial Board, *Animals* (2021-)
Founding member of Editorial Board, *Animal Cognition* (1998-)
Editorial Board, *International Journal of Psychology* (2016-)
Section Editor of Encyclopedia of Animal Behavior, Elsevier, (2023-2026)
Founding member of Editorial Board, *PeerJ Open Advances in Zoology* (2023-)
Board of Trustees, Cambridge Center for Behavioral Studies, USA (1988-)

Immediate-past positions and professions:

Distinguished Professor, Kyoto University Institute for Advanced Study (2016-2020)
Adjunct Professor, Primate Research Institute of Kyoto University (2016-2020)
Coordinator, Leading Graduate Program in Primatology and Wildlife Science, Kyoto University (2013-2020)
Distinguished Professor, Chubu University (2016-2020)
Founder and Coordinator, SAGA: Support for African/Asian Great Apes (1998-2010)
Founder and Director, GAIN: Great Ape Information Network (2004-2020)
Founder, WRC: Wildlife Research Center of Kyoto University (2006-2008)
Founder and General Director, (Public Interest Incorporated Foundation) Japan Monkey Centre (2014-2020)
Editor-in-chief, *Primates* (2014-2020)
Editorial Board of *Philosophical Transactions of the Royal Society B* (2011-2015)
Member of Science Council Japan (2005-2020)
President, International Primatological Society (2012-2016)
Ascendant of the summit, Mt. Muztagh Ata (7546m) in Xinjiang in 1989

Ascendant of the summit, Mt. Shishapangma (8027m) in Tibet in 1990

President, Academic Alpine Club of Kyoto (2015-2020)

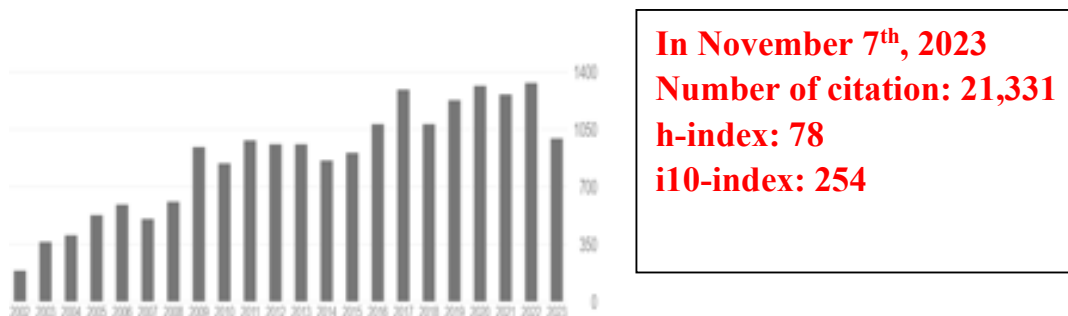
Vice President, National Mountain Day Council (2016-2020)

Research Summary

The author of the books published in English, Chinese, Korean, and Japanese.



Citation index (Google Scholar analysis):



Awards and honors:

- 1990 Prince Chichibu Memorial Award (Japan Science Academy)
- 2000 Nakayama Science Foundation Award for Innovative Research (Nakayama Foundation)
- 2001 Jane Goodall Award (Jane Goodall Institute)
- 2004 Chunichi Cultural Award (Chunichi News Paper Co.)
- 2004 Toshihiko Tokizane Memorial Award for Neuroscience (Japan Neuroscience Society)
- 2006 The Medal with Purple Ribbon (Japanese government)
- 2011 Mainichi Publishing Award (Mainichi News Paper Co.), for the book “Imagination”
- 2011 Science Journalist Award for the science communication book, by the book “Imagination”
- 2013 The Person of Cultural Merit (Japanese government)
- 2014 International Distinguished Award (Japanese Psychological Association)
- 2019 Fellow (Japanese Society for Cognitive Science)

Grants (major ones only):

- 1997-2021 MEXT KAKENHI grants: Specially Promoted Science (6 consecutive terms for 28 years)
 - About 20 million US dollars for promoting the study of chimpanzees in the wild and laboratory
- 2004-2011 JSPS-HOPE project for the Primate Origins of Human Evolution
 - About 3 million US dollars for making the international network of Primatology
- 2010-2013 MEXT-JSPS WISH Project for the Web of Integrated Studies on Human mind
 - About 12 million US dollars for constructing the 4 huge cages of chimpanzees and purchasing fMRI
- 2013-2020 MEXT leading graduate program “Primatology and Wildlife Science”
 - About 11 million US dollars for creating the Graduate school program for Wildlife Science.

Publications list (English and academic ones only)

Books

- Matsuzawa T, Humle, T & Sugiyama, Y (2011) *The Chimpanzees of Bossou and Nimba*. Springer.
- Lonsdorf, E, Ross, S & Matsuzawa T (2010) *The mind of the chimpanzee: Ecological and experimental perspectives*. The University of Chicago Press.
- Matsuzawa T, Tomonaga M, Tanaka M (2006) *Cognitive Development in Chimpanzees*. Springer
- Matsuzawa T (2001) *Primate origins of human cognition and behavior*. Springer-Verlag.

Articles (Peer-reviewed academic journal articles in English only) Excluding the articles in the press and in preparation:

2023

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- Morimura, N., Hirata, S., & Matsuzawa, T. (2023). Challenging cognitive enrichment: examples from caring for the chimpanzees in the Kumamoto Sanctuary, Japan and Bossou, Guinea. In *Nonhuman primate welfare: from history, science, and ethics to practice* (pp. 501-528). Cham: Springer International Publishing.
- Muramatsu, A., & Matsuzawa, T. (2023). Sequence Order in the Range 1 to 19 by Chimpanzees on a Touchscreen Task: Processing Two-Digit Arabic Numerals. *Animals*, 13(5), 774.
- Martinet, L., Sueur, C., Matsuzawa, T., Hirata, S., Morimura, N., & Pelé, M. (2023). Tool assisted task on touchscreen: a case study on drawing behaviour in chimpanzees (*Pan troglodytes*). *Folia Primatologica*, 1(aop), 1-17.

2022

- Schubert, C. L., Ryckewaert, B., Pereira, C., & Matsuzawa, T. (2022). Garrano Horses Perceive Letters of the Alphabet on a Touchscreen System: A Pilot Study. *Animals*, 12(24), 3514.
- Almeida-Warren, K., Camara, H. D., Matsuzawa, T., & Carvalho, S. (2022). Landscaping the behavioural ecology of primate stone tool use. *International Journal of Primatology*, 43(5), 885-912.
- Martin, C. F., Muramatsu, A., & Matsuzawa, T. (2022). Apex and ApeTouch: Development of a Portable touchscreen system and software for primates at zoos. *Animals*, 12(13), 1660.
- Koops K, Soumah AG, van Leeuwen KL, Camara HD, Matsuzawa T (2022) Field experiments find no evidence that chimpanzee nut-cracking can be independently innovated. *Nature Human Evolution*, Jan 24th, 2022. <https://doi.org/10.1038/s41562-021-01272-9> (SharedIt <https://rdcu.be/cFCp4>)
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- Kim A. Bard, Heidi Keller, Kirsty M. Ross, Barry Hewlett, Lauren Butler, Sarah T. Boysen, and Tetsuro Matsuzawa (2022) Joint attention in human and chimpanzee infants in varied socioecological contexts. *Monograph of the Society for Research of Child Development*.
- Maegan Fitzgerald, Erik P. Willems, Aly Gaspard Soumah, Tetsuro Matsuzawa, Kathelijne Koops (2022) To drum or not to drum: Selectivity in tree buttress drumming by chimpanzees (Pan troglodytes verus) in the Nimba Mountains, Guinea. *American Journal of Primatology*, <https://onlinelibrary.wiley.com/doi/full/10.1002/ajp.23382>

2021

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- Che-Castaldo JP, Haverkamp K, Watanuki K, Matsuzawa T, Hirata S, Ross SR (2021) Comparative survival analyses among captive chimpanzees (*Pan troglodytes*) in America and Japan. *Peer J*, 2021 Aug 12;9:e11913. <https://peerj.com/articles/11913/>.
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2019

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Matsuzawa T (2019) Horses and nomads in Mongolia. *Primates*, 60: 383-387. DOI: 10.1007/s10329-019-00746-9

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Matsuzawa T (2019) Chimpanzees foraging on aquatic foods: algae scooping in Bossou. *Primates*, 60(4): 317-319 DOI: 10.1007/s10329-019-00733-0

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Havercamp K, Watanuki K, Tomonaga M, Matsuzawa T, Hirata S (2019) Longevity and mortality of captive chimpanzees in Japan from 1921 to 2018. *Primates*, 60: 525-535. DOI: 10.1007/s10329-019-00755-8

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Watson CFI, Matsuzawa T (2018) Behaviour of nonhuman primate mothers toward their dead infants: uncovering mechanisms. *Philosophical Transactions of the Royal Society B*, 373: 20170261 DOI: 10.1098/rstb.2017.0261

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- Matsuzawa T (2018) World Chimpanzee Day and the Ai' s Scarf Award. *Primates*, Volume 59, Issue 5, pp 409-412 DOI: 10.1007/s10329-018-0681-8
- Matsuzawa T (2018) Hot-spring bathing of wild monkeys in Shiga-Heights: origin and propagation of a cultural behavior. *Primates*, 59(3): 209-213 DOI: 10.1007/s10329-018-0661-z
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- Fitzgerald M, Coulson R, Lawing A, Matsuzawa T, Koops K (2018) Modeling habitat suitability for chimpanzees (*Pan troglodytes verus*) in the Greater Nimba Landscape, Guinea, West Africa *Primates*, Volume 59, Issue 4, pp 361-375 DOI: 10.1007/s10329-018-0657-8
- 2017**
- Wilson VAD, Weiss A, Humle T, Morimura N, Udono T, Idani G, Matsuzawa T, Hirata S, Inoue-Murayama M (2017) Chimpanzee Personality and the Arginine Vasopressin Receptor 1A Genotype *Behavior Genetics*, Volume 47, Issue 2, pp 215-226 DOI: 10.1007/s10519-016-9822-2
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Invited talks (International ones only)

2023

- 1) Lecture at the College of Life Sciences, Northwest university, Xi'an, April 25th, 2023 (Zoom)
- 2) International Primatological Society, Kuching, Malaysia, August 24th, 2023 (Zoom)
- 3) Lecture at the College of Life Sciences, Northwest university, Xi'an, October 16-17th, 2023 (Zoom)

2022

- 1) IPS Quito on the scientific names of nonhuman primates, Jan 10th, 2022, (Zoom)
- 2) Use of Arabic numerals by chimpanzees. CO3 on April 6-9, 2022 on Number (Zoom)
- 3) Cognitive tradeoff hypothesis: study of chimpanzees to know the evolutionary basis of human mind. In: Behavior, Evolution, and Culture (BEC) seminar series at UCLA, April 18th, 2022, UCLA, USA. (Zoom) Cancelled.
- 4) Memorial Lecture celebrating the anniversary of the school at the Northwest University, Xi'an, November 3rd, 2022 (Zoom)

2021

- 1) Imagination and Sharing: The evolution of human mind viewed from the study of chimpanzees. Yunnan Snub-nosed Monkeys Conservation workshop: Kunming China (Zoom), January 14th, 2021
- 2) Dawn of Equinology, The 1st International Congress of Equinology and Equisterian Tourism, July 1st, 2021, Viana do Castelo, Portugal. (Zoom)
- 3) Intelligence of horses, The 1st International Congress of Equinology and Equisterian Tourism, July 1st, 2021, Viana do Castelo, Portugal. (Zoom)
- 4) The comparative study of the minds of humans and chimpanzees. ICP: International Congress of Psychology, July 18th - 23rd, Prague, Czech. (Zoom)

2020

- 1) CogSci 2020: the 42nd Annual Virtual Meeting of the Cognitive Science Society, July 29th to Aug 1st, Canada (Zoom)
- 2) "Chimpanzee intelligence in the laboratory and in the wild" Association for Indian Primatologists,

August 8th, 2021 (Zoom).

- 3) Inter-Species Conversations Workshop, August 17-18, New York, USA (ZOOM)
- 4) CARTA Symposium, October 25th, La Jolla, USA (Zoom)

2019

- 1) Evolution of the human mind viewed from the study of chimpanzees. Bressanone 2019, January 21st, Brixen, Italy
- 2) Comparative Cognition in Primates CARTA Symposium - CARTA 10th Anniversary: Revisiting the Agenda. March 23, CA, USA
- 3) Talk at the Gulbenkian Foundation. May 30, 2019
- 4) Evolution of the human mind viewed from the study of chimpanzee mind. June 04, Madrid, Spain
- 5) Human mind viewed from the study of chimpanzee Protolang 6. September 09, Lisbon, Portugal
- 6) Chinese Association for Zoological Gardens. October 23, Shanghai, China

2018

- 1) Human evolution viewed from the study of chimpanzees University of Conakry. January 06, Conakry, Guinea
- 2) Nocturne MONKEYS + lecture by Tetsuro Matsuzawa @ Museum of Natural Sciences. January 09, Brussels, Belgian
- 3) The study of chimpanzee mind in the relation to public communication 2018 PCST Conference. April 04, Dunedin, New Zealand
- 4) Yunnan Normal University. April 25, Kunming, China
- 5) Special lecture at New Oriental (新東方) "Imagination: Human mind viewed from the study of chimpanzees". April 25, Kunming, China
- 6) Lijiang Forum on Nature and Culture, The Nature Conservancy (TNC). April 28, Lijiang, China
- 7) Nicolaus Copernicus University in Toruń. May 29, Toruń, Poland
- 8) Comparative language and cognition primates-equid First international scientific Horse meeting. December 11, Chantilly, France

2017

- 1) Numerical abilities of chimpanzees "The origins of numerical abilities." The Royal Society, London. February 20, London, UK
- 2) Numerical abilities of chimpanzees "The origins of numerical abilities: the future." Kavli Royal Society Centre, The Royal Society at Chicheley Hall. February 22, Buckinghamshire, UK
- 3) Evolution of human mind viewed from the study of chimpanzees Scottish Primate Research Group. @ The Burn, in Edzell. March 11, Scotland

- 4) SAGA: An attempt to promote the welfare of chimpanzees and other nonhuman primates in Japan
University of Stirling. March 16, Scotland
- 5) Conférence Lusophonie et biodiversité. Musée de l'Homme. April 05, Paris, France
- 6) Human mind viewed from the study of chimpanzees' "Evolution of the brain" Fondation Ipsen. April
07, Paris, France
- 7) Imagination: Human Mind Learned from the Study of Chimpanzees. Kunming Institute of Zoology.
April 24, Kunming, China
- 8) Kunming University of Science and Technology, April 25, Kunming, China
- 9) Shanghai Natural History Museum. August 16, Shanghai, China
- 10) Primatology to Wildlife science: The fieldwork promotes the conservation and enrichment of wild
endangered animals Guangzhou Zoo. August 18, Guangzhou, China
- 11) Primate origins of human cognition and behavior. Plenary talk in the China Primatological Society,
August 21st, Xi'an, China
- 12) L'origine della mente nel confronto fra esseri umani e scimpanzé Associazione Festival della
Scienza. (At Palazzo Ducale). November 04, Genoa, Italy
- 13) 想像的力量：人間性の進化を考える 第32届中日工程技術研討會人文科技組－身處地球環
境危機的時代再省生與死. November 22, Taipei, China
- 14) Human mind viewed from the study of primate evolution. Department of Psychology, Taiwan
University, November 23, Taipei, Taiwan, China
- 15) La Primatologie japonaise et l'expérience lusophone Université de la Sorbonne. December 06, Paris,
France

2016

- 1) The evolutionary origins of human mind viewed from the study of chimpanzees. Conférence -
Langage et cognition/primates et équidés (Sorbonne conference on chimpanzees and horses).
January 07, Paris, France
- 2) Evolution of the human mind viewed from the study of chimpanzees. The 8th HOPE Meeting,
Tsukuba Japan, March 07
- 3) Primatologists in Discussion. The Netherlands meets Japan. March 08, Leiden, The Netherlands
- 4) Language and number in chimpanzees. Lorentz Center Workshop: Tightening the Articulation
Between Language and Number. March 09, Leiden, The Netherlands
- 5) The evolutionary origins of human cognitive development: insights from research on chimpanzees.
ICN2016 Uruguay. March 31, Montevideo, Uruguay
- 6) INPA. April 08, Manaus, Brazil
- 7) Viewing the Human Mind Through the Study of Chimpanzees Institute of Cognitive and
Evolutionary Anthropology, Oxford University. June 24, Oxford, UK

- 8) Primate Archaeology: An Evolutionary Context for the Emergence of Technology. June 28, Oxford, United Kingdom
- 9) ICP2016 (July 24-29). July 24, Yokohama, Japan
- 10) Chimpanzees in Context - Understanding Chimpanzees IV. August 18, Chicago, USA
- 11) IPS ASP Chicago 2016. August 23, Chicago, USA
- 12) Chicago Japan Trading Office. August 28, Chicago, USA
- 13) iXi. September 17, Changsha, China
- 14) Kunming University of Science and Technology, Chenggong Campus. September 18, Kunming, China
- 15) Yunnan University of Finance and Economics. September 19, Yunnan, China
- 16) Imagination: Human mind viewed from the study of chimpanzees. Kunming Institute of Zoology. September 19, Yunnan, China
- 17) Imagination: Human mind viewed from the study of chimpanzees New Oriental Training School, Yunnan Branch. September 20, Yunnan, China
- 18) Origins of the Human Mind [ONGOING] Open Online Course on edX. October 27, (Online)
- 19) Origin of the human mind viewed from the study of chimpanzees "Kyoto Lectures in Strasbourg" At Institut de Science et d'Ingénierie Supramoléculaires (ISIS). November 30, Strasbourg, France <https://www.usias.fr/en/events/kyoto-lectures/matsuzawa/>
- 20) Strasbourg day of monkey 25 years. December 02, Strasbourg, France

2015

- 1) Behavior, cognition, and ecology of Japanese snow monkeys: the introduction to Japan Monkey Centre founded in 1956 Lincoln Park Zoo. March 17, Chicago, USA.
- 2) The evolutionary origins of human cognitive development: insights from research on chimpanzees 2015 SRCD Biennial Meeting. March 21, Pennsylvania, USA
- 3) The evolutionary origins of human cognitive development: insights from research on chimpanzees Evolutionary psychology & primatology in the low countries. CBEN, University of Amsterdam. April 17, Amsterdam, The Netherlands
- 4) The evolutionary origins of human mind and culture: insights from research on Japanese monkeys and chimpanzees Ape Culture, Haus der Kulturen der Welt (HKW). May 17, Berlin, Germany
- 5) The evolutionary origins of human cognitive development: insights from research on chimpanzees. Copernicus Festival 2015: Genius. May 22, Krakow, Poland
- 6) The evolutionary origins of human cognition: insights from research on chimpanzees. BioAnthropological Meeting (BAM): life, death and in between. University of Coimbra. May 30, Coimbra, Portugal
- 7) The evolutionary origins of human mind: insights from research on the great apes especially

- Orangutans. International conference on rainforest ecology, diversity and conservation in Borneo. June 09, Kota Kinabalu, Malaysia
- 8) Evolutionary origin of human language is viewed from the study of chimpanzees. 8th World Congress of African Linguistics (WOCAL 8). August 22, Kyoto, Japan
 - 9) The evolutionary origins of human mind viewed from the study of chimpanzees: the parallel efforts of conservation and welfare. The 6th European federation for primatology meeting (EFP2015), Tre University. August 26, Roma, Italy
 - 10) The evolutionary of the human mind can be understood through the study of chimpanzees in the wild and the laboratory. Eighth International Conference of the Association for Behavior Analysis International (ABAI), September 28, Kyoto, Japan
 - 11) Tokens and tools: a parallel effort of lab work and fieldwork by Claudia Sousa. Chimpanzees, people & nature: the legacy of Claudia Sousa. October 09, Lisbon, Portugal
 - 12) 2015 Ewha EcoScience Symposium, Ewha woman University. October 19, Seoul, Korea
 - 13) The evolutionary origins of human cognitive development: insights from research on chimpanzees. The 3rd International Conference on human-agent interaction (HAI2015). October 21, Daegu, Korea
 - 14) Guangdong Science Center. November 22, Guangdong, China
 - 15) The evolutionary origins of human mind viewed from the study of chimpanzees. Consciousness, cognition, and culture: implications for the 21st century. December 09, Bengaluru, India

2014

- 1) Dali University. March 03, Yunnan, China
- 2) The evolutionary origins of human cognition viewed from the study of chimpanzees "Workshop on behavior, cognition and evolution" at University of Lisbon. July 01, Lisbon, Portugal
- 3) The evolutionary origins of human cognitive development: insights from research on chimpanzees XIX Biennial International Conference on Infant Studies (ISIS Conference Germany 2014). July 05, Berlin, Germany
- 4) Symbolic representation of number and working memory in chimpanzees Making of humanities: biological roots of mathematics and cooperation: a joint workshop of social psychology and neuroethology. July 28, Hokkaido, Japan
- 5) Evolution of human mind and culture viewed from the study of chimpanzees International Conference on Collaboration Across Boundaries: Culture, Distance and Technology. August 22, Kyoto, Japan
- 6) A parallel effort of studying chimpanzees in the laboratory and the wild The 37th meeting of the American Society of Primatologists. September 14, Decatur, USA
- 7) Education by master-apprenticeship in stone-tool use in wild chimpanzees International Conference: Percussive Technology and Human Evolution. September 19, London, UK

- 8) The evolutionary origins of human cognition viewed from the study of chimpanzees IEEE ICDL-EPIROB 2014 (The Fourth Joint IEEE International Conference on Development and Learning and Epigenetic Robotics). October 15, Genoa, Italy
- 9) Orangutans, gorillas, chimpanzees, and humans: the hominid family consists of the four genera International Primate/Orangutan Dialogue. November 24, Pulau Pinang, Malaysia

2013

- 1) Conakry University. January 04, Conakry, Guinea
- 2) Behavioral and neuroanatomical comparison of cognitive development in *Pan troglodytes* and *Homo sapiens* AAAS 2013 annual meeting. February 15, Boston, USA
- 3) Comparative Cognitive Science: Research, Conservation, and Welfare of The Chimpanzees School of Biological Science, Universiti Sains Malaysia. March 05, Penang, Malaysia
- 4) What is Uniquely Human?: A View from the Study of Chimpanzees Department of Education, Universiti Sains Malaysia. March 06, Penang, Malaysia
- 5) What is Uniquely Human?: An Answer from the Study of Chimpanzees Yunnan University of Science and Technology. March 24, Kunming, China
- 6) Comparative Cognitive Science: Research, Conservation, and Welfare of the Chimpanzees Kunming Institute of Zoology. March 25, Kunming, China
- 7) What is uniquely human?: An answer from the study of chimpanzees Yunnan University of Finance and Economy. March 25, Kunming, China
- 8) Comparative cognitive science: Research, Conservation, and welfare of the chimpanzees the Southwest University of Forestry. March 26, Kunming, China
- 9) the Royal University of Bhutan. May 05, Thimpu, Bhutan
- 10) What is uniquely human?: The use of numbers by chimpanzees Archives Jean Piaget: Interdisciplinary seminar "The origins of numbers". May 14, Geneva, Swiss
- 11) Comparative Cognitive Science: the parallel effort of the fieldwork and lab work. May 15, Neuchatel, Swiss
- 12) What is uniquely human?: An answer from the study of chimpanzees Colloquium of Departments of Psychology/Biology University of St. Andrews. May 20, Scotland, UK
- 13) What is uniquely human?: A view from the study of chimpanzee mind Faculty of Psychology, University of Warsaw. June 18, Warsaw, Poland
- 14) What is uniquely human?: A view from the study of chimpanzee mind Mammalian Research Institute, Polish Academy of Science. June 19, Bialowieza, Poland
- 15) What is uniquely human?: A view from the study of chimpanzee mind Faculty of Biology, University of Warsaw. June 20, Warsaw, Poland
- 16) Chimpanzee mind in the laboratory and the wild: A trial for animal welfare and environmental

enrichment Warsaw Zoo. June 24, Warsaw, Poland

- 17) Social evolution of the chimpanzee mind Wellcome trust summer school on the biology of social cognition. July 18, Hinxton, UK
- 18) "Mind Reading" in Chimpanzees Salk Institute, CARTA. October 18, California, United States
- 19) The evolutionary origins of human cognition viewed from the study of chimpanzees Computation and Neural Systems Seminar, Caltech (California Institute of Technology). October 21, Pasadena, CA, USA
- 20) Exploring the mind of the chimpanzee Workshop on "The evolution of human cognition". November 17, Pune, India
- 21) Human Evolution Viewed from the Study of Chimpanzees. November 23, Hyderabad, India
- 22) MNHN: National Museum of Natural History. December 14, Paris, France
- 23) JSPS Asia-Africa Platform Symposium. December 16, Conakry, Guinea

2012

- 1) The zoo as a window for nature: Research, Conservation, and Welfare of the chimpanzees Special Seminar at the University of Chicago. February 18, Chicago, USA
- 2) The zoo as a window for nature: Research, Conservation, and Welfare of the chimpanzees Lincoln Park Zoo. February 19, Chicago, USA
- 3) What is uniquely human?: An answer from the study of chimpanzee mind 120th APA Convention. August 02
- 4) [President Plenary] What is uniquely human?: An answer from the study of chimpanzee mind International Primatological Society XXIV. August 16, Cancun, Mexico
- 5) University Autonoma Metropolitana-Iztapalapa. August 20, Mexico City, Mexico
- 6) Brain Revolution in Humans and Chimpanzees BMAP 2012 "Diseases and Evolution of Brain and Mind". August 29, Tokyo, Japan
- 7) The Chimpanzees of Bossou and Nimba The International Symposium: Cycle and Span of Sustainability. October 29, Kyoto, Japan
- 8) Ecole Normale Supérieure. November 05, Paris, France
- 9) Le Museum national d'Histoire naturelle. November 08, Paris, France
- 10) International Institute of Advanced Studies. December 08, Tokyo, Japan

2011

- 1) What is uniquely human? An answer from the study of chimpanzees Department of Biology, University of Science Malaysia. February 17, Penang, Malaysia
- 2) Borneo Rainforest Lodge, Malaysia-Sabah University. March 26, Danum Valley, Malaysia
- 3) What is uniquely human? An answer from the study of chimpanzees. Harvard University

Anthropology-Psychology Joint Special Seminar. April 27, Massachusetts, USA

- 4) What is uniquely human? An answer from the study of chimpanzees New York Colloquium of Primatology. April 28, New York, United States
- 5) Cognitive development in chimpanzees Special lecture in Hunter College, City University of New York. April 29, New York, United States
- 6) What is uniquely human? An answer from the study of chimpanzees. The Colloquium at IRCS. May 02, Pennsylvania, USA
- 7) What is uniquely human? An answer from the study of chimpanzees. Special lecture in Institute of Health. May 17, London, UK
- 8) What is uniquely human? An answer from the study of chimpanzees. Special Lecture in the Psychology and Anthropology Joint Colloquium. May 18, Cambridge, United Kingdom
- 9) Tamagawa-CALTEC Joint Symposium on Neuroscience. June 07, Kyoto, Japan
- 10) Association for the Scientific Study of Consciousness (ASSC15). June 12, Kyoto, Japan
- 11) Potentials for ICCA as research site for primates by Kyoto University ICCA stakeholders workshop. June 29, Kota Kinabalu, Malaysia
- 12) Stone tool use of wild chimpanzees in Bossou, Guinea: Overview of the field experiment [Nairobi Workshop on Lithic Technology] International Workshop on Primate Archaeology: Stone tool use in fossil hominids and nonhuman primates. August 06, Nairobi, Kenya
- 13) Social evolution of the chimpanzee mind Wellcome Trust School on Biology of Social Cognition. August 16, Cambridge, UK
- 14) What is uniquely human? An answer from the study of chimpanzees IIAS Lecture 2011 on "Frontiers in neuroscience: from the brain to mind". December 05, Tokyo, Japan
- 15) Outgroup: A new paradigm of thinking about the evolutionary basis of human mind IIAS research conference 2011 on "Frontiers in neuroscience: from the brain to mind". December 09, Kyoto, Japan
- 16) What is uniquely human? An answer from the study of chimpanzees. Special lecture for the Philosophy section of ENS. December 12, Paris, France

2010

- 1) Chimpanzee mind: the evolutionary basis of human mind i-Brain Symposium. March 06, Brussels, Belgium
- 2) Chimpanzee mind and human mind Seoul Zoo. April 28, Seoul, Korea
- 3) What is uniquely human? : A view from the study of chimpanzees Ewha Women's University. April 29, Seoul, South Korea
- 4) Chimpanzee mind and the human mind: a combining effort of fieldwork and laboratory work. University College London (UCL). May 18, London, United Kingdom

- 5) Cognitive development in chimpanzees ISCP2010- 15th Biennial Scientific Meeting of the International Society for Comparative Psychology. May 21, Awaji, Hyogo
- 6) Social cognition in primates Cold Spring Harbor Laboratory Workshop: Biology of Social Cognition. July 15, New York, United States
- 7) Comparative cognitive development ISSBD 21st Biennial International Congress. July 21, Lusaka, Zambia
- 8) Support for African/Asian Great Apes (SAGA): Efforts Toward the Care and Conservation of Chimpanzees XXIII Congress of the International Primatological Society. September 13, Kyoto, Japan

2009

- 1) Chimpanzee mind: a combining effort of fieldwork and laboratory work 2009 AAAS Annual Meeting. February 12, Chicago, IL, USA
- 2) Cognitive development in chimpanzees in the wild and in the laboratory ESF-JSPS Frontier Science Conference Series for Young Researches: Social Cognitive Neuroscience. February 28, Maratea, Italy
- 3) Imitation and Memory: An Evolutionary Scenario for the Uniqueness of Human Cognition Workshop "The Primate Mind: Build to Connect with Other Minds". June 07, Erice, Italy
- 4) Understanding the chimpanzee mind through both field and laboratory research The 10th APRU doctoral students conference. July 06, Kyoto, Japan
- 5) Trade-off theory of memory and symbolization in humans and chimpanzees The 8th biennial meeting of the society for applied research in memory and cognition. July 28, Kyoto, Japan
- 6) Cognitive development in the chimpanzee: A trade-off between memory and abstraction Sogang University. October 30, Sogang, Korea

2008

- 1) Chimpanzee mind: a combining effort of fieldwork and laboratory work Decade of the Mind III. May 07, Des Moines, Iowa, USA
- 2) Comparative cognitive science: trade-off theory of memory and symbolization in humans and chimpanzees ASSC12; The 12th Annual Meeting of the ASSC (Association for the Scientific Study of Consciousness). June 21, Taiwan
- 3) ICP2008. June 24, Berlin, Germany
- 4) Chimpanzee mind: evolution of human mind viewed from panthropology Invited plenary talk in XXIX International Congress of Psychology. July 24, Berlin, Germany
- 5) IPS 2008 (the XXIIth Congress of International Primatological Society). August 05, Edinburgh, UK
- 6) Primatology: A study in the field and the laboratory Invited lecture to the public of the CARTA

- symposium "Anthropology: Defining the Agenda". September 19, CA, USA
- 7) Chimpanzee Mind: Studies in the Field and Laboratory Minnesota University. September 22, Minnesota, USA
 - 8) Environmental education through chimpanzee mind. Flanders Forum. October 03, Osaka, Japan

2007

- 1) The history of the understanding chimpanzees conference series Conference "The Mind of the Chimpanzee". March 22, Chicago, IL, USA
- 2) Cognitive development in chimpanzees: A synthesis of field and lab study Comparative cognition in context group. March 29, Toronto, Canada
- 3) The Chimpanzee Mind: Studies in the Field and the Laboratory The Thirtieth ASP Meeting at Winston-Salem, North Carolina. June 21, North Carolina, United States
- 4) Chimpanzee mind: The evolutionary basis of human mind Nishinomiya-Yukawa Memorial International Symposium: What is Life? The Next 100 Years of Yukawa's Dream. October 20, Kyoto, Japan

2006

- 1) Numeral Processing in Chimpanzees The 24th European Workshop on Cognitive Neuropsychology. January 22, Bressanone, Italy
- 2) Social and emotional lives into the future Ngamba Island 2006 IPS Pre-Congress Workshop "Chimpanzees Social Intelligence. June 24, Entebbe, Uganda
- 3) Socio-cognitive development in chimpanzees: the steps toward the theory. XXI Congress of the International Primatological Society. June 30, Entebbe, Uganda
- 4) Green Corridor: An Attempt at Saving Chimpanzees in Bossou and Nimba Symposium "Research and Conservation of the African Great Apes: The 30th Anniversary of the Bossou-Nimba Project". November 27, Conakry, Guinea

2005

- 1) Japanese efforts for the international conservation activities of great apes. The ITTO-GRASP workshop in Yokohama. May 27, Yokohama, Japan
- 2) Animal behavior about number processing NUMBRA/ESCOP Summer School "Neuroscience of number processing". July 08, Erice, Italy
- 3) How do animals think? European Forum Alpbach. August 18, Alpbach, Austria

2004

- 1) On the HOPE project. The signing ceremony of JSPS and MPG. February 12, Munich, Germany

- 2) Prerequisites of tool use in chimpanzees 21COE International symposium on African Great Apes. March 04, Kyoto, Japan
- 3) The mind of the chimpanzee: In the wild and captivity. ROH Public Symposium on "Sequencing the chimpanzee genome: What have we learned?". March 12, California, USA
- 4) Conservation of Wild Chimpanzees in West Africa The First Meeting of the Section on Great Apes of the IUCN/SSC Primate Specialist Group. April 17, Chicago, IL, USA
- 5) Cognitive development in chimpanzees: participation observation based on triadic relationship The XXth Congress of the International Primatological Society. August 25, Torino, Italy

2001

- 1) Cognitive development in chimpanzees GEMINI Workshop on Ape Genomics. March 15, Tokyo, Japan
- 2) The 2001 ChimpanZoo Conference. September 18, Arizona, USA
- 3) Cognitive development of chimpanzees viewed from laboratory and field works Seminar at the Max Planck Institute for Evolutionary Anthropology. November 26, Leipzig, Germany

1997

- 1) Chimpanzee Intelligence in the Laboratory and the Wild. Smithsonian's National Zoological Park. April 04, Washington, United States.

The invited talks in the period of my early career in 2000-1985 is incomplete.

EXHIBIT B

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EXHIBIT B

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EXHIBIT 5

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DECLARATION OF DR. CHRISTOPHE BOESCH

I, Christophe Boesch, Ph.D., declare as follows:

Introduction and Qualifications

1. My name is Christophe Boesch. I received a Maturite scientifique from College Calvin, Geneve in 1970, then a Diploma of biology from the University of Geneva, Switzerland in 1975, and finally a Ph.D. from the University of Zurich, Switzerland in 1984. I work and reside in Leipzig, Germany.
2. I submit this Declaration in support of the Nonhuman Rights Project, Inc.'s complaint for a writ of habeas corpus on behalf of the captive chimpanzees at the DeYoung Family Zoo. I am a non-party to this proceeding.
3. I am currently an Honorary Professor in the Department of Zoology at the University of Leipzig, Germany where I have been a member of the faculty for 24 years. I am also an Emeritus Director of the Max Planck Institute of Evolutionary Anthropology, and Founder and President of the Wild Chimpanzee Foundation. I have directed 16 diploma theses, 74 Ph.D. theses for both European and American students, and the post-doctoral work for 18 students. I have also regularly taught classes in Behavioural Ecology, Evolutionary Biology, and Population Biology in the 22 years that I have been teaching.
4. I have twice been awarded the Great Apes Fellowship of the Leakey Foundation in Pasadena, California. In addition, I received the Prix Cortaillod for talented Swiss scientists under 35 years old from the University of Neuchâtel, Switzerland, and was awarded the Medal "Officier de l'Ordre National" by the president of Côte d'Ivoire Alassane Ouattara in 2013. In 2015, I was awarded with the St Andrews Prize for the Environment for my conservation work in favor

of the chimpanzees in Guinea. I was a two-time finalist in 2021 and 2023 of the Indianapolis Prize, the world's leading animal conservation award.

5. I have been a member of the International Primate Protection League, the IUCN/SSC Primate Specialist Group, and the International Primatological Society since 1986. I am also currently a member of: (1) the Behavior and Brain Sciences Associates (since 1991); (2) the Pan Africa News Editorial Board (since 1997); (3) Steering Committee of the World Heritage Species Status Taskforce (since 2002); and (4) the IUCN/SSC/ Section of the Great Apes (since 2003). I previously served as a: (1) scientific board member of the Fyssen Foundation, Paris (1985-1989); (2) consultant to the World Wide Fund for Nature International (1987-1988); (3) Project Coordinator for the World Wide Fund for Nature International in the Taï National Park, Ivory Coast (1988-1992); (4) executive council member of the Committee for the Care and Conservation of Chimpanzee (1988-1992); and (5) member of the Society for the study of Animal Behaviour (1993-1998).
6. During my career, I have served as a grant reviewer for the following institutions and foundations: NIH, National Science Foundation (USA), Swiss National Science Foundation, Leakey Foundation, National Geographic Society, Fulbright Foundation, and Wenner-Gren Foundation. Additionally, I have served as an ad hoc reviewer for a number of prominent peer-reviewed journals including: *Behavioural and Brain Sciences*, *Animal Behaviour*, *Nature*, *Behaviour*, *Ethology*, *Primates*, *International Journal of Primatology*, *American Journal of Primatology*, *Folia Primatologica*, *American Journal of Physical Anthropology*, *Current Anthropology*, *Behavioural Ecology*, *Proceedings of the National Academy Science*, *Series B*, *Quarterly Review of Biology*, *American Naturalists*, *Journal of Human Evolution*, *Proceedings of the Royal Society: Biological Sciences*, and *Journal of Evolutionary Biology*.

7. I have specialized in the study of wild chimpanzees for approximately 46 years. In 1976, I spent 8 months in the Taï National Park, Ivory Coast conducting a preliminary study on the behaviour of wild chimpanzees. I have completed on-going studies of these chimpanzees since 1979 and since 2013 this project is now led by Dr. Roman Wittig and Dr. Catherine Crockford, from the CNRS in Lyon, France. My research on these chimpanzees has principally focused on ecology, social organisation, tool-use, hunting, cooperation, food-sharing, inter-community relationships and cognitive capacities. I also conducted a comparative field study on the chimpanzees of Gombe Stream National Park, Tanzania in 1990 and 1992 (April to July). In 1999 (August to October), I undertook a comparative field study on the chimpanzees of the Mahale Mountains National Park, Tanzania. Then I initiated in 2006 an on-going long-term field study of the chimpanzees and the gorillas of the Loango National Park, in Gabon, since 2016 this project is now led by Dr. Tobias Deschner and Prof. Simone Pika, from the University of Osnabrück, Germany.
8. I have authored or co-authored 16 books on primate behavior, cognition, and evolution. Some of the most relevant include: (1) *The chimpanzees of the Taï Forest: 40 years of research* (2019, Cambridge University Press); (2) *Tool Use in Animals - Cognition and Ecology* (2013, Cambridge: Cambridge University Press); (3) *Wild Cultures: A Comparison between Chimpanzee and Human Cultures* (2012, Cambridge: Cambridge University Press); (4) *The Real Chimpanzee: Sex Strategies in the Forest* (2009, Cambridge: Cambridge University Press); (5) *Feeding Ecology in Apes and Other Primates* (2006, Cambridge: Cambridge University Press); (6) *Regional Action Plan for Chimpanzees and Gorillas in West Equatorial Africa* (2005, Washington: Conservation International); (7) *Behavioural Diversity in Chimpanzees and Bonobos* (2002, Cambridge: Cambridge University Press); and (8) *The*

Chimpanzees of the Tai Forest: Behavioural Ecology and Evolution (2000, Oxford: Oxford University Press).

9. Since 1978, I have published at least 350 articles on the cognitive and learning capabilities, intelligence, communication, or language skills of apes and chimpanzees specifically. These articles are published in many of the in the world's most-cited peer-reviewed scientific journals, including: *Science*, *Nature*, *Journal of Comparative Psychology*, *Conservation Biology*, *American Journal of Primatology*, *International Journal of Primatology*, *Ecology and Evolution*, *Animal Behaviour*, *Journal of Human Evolution*, *American Journal of Physical Anthropology*, *Journal of General Virology*, *Folia Primatologica* (the official journal of the European Federation for Primatology), *Biological Conservation*, *Molecular Ecology*, and *Natural History*. I have also published articles in *The Oxford Handbook of Comparative Evolutionary Psychology*, *Proceedings of the National Academy of Sciences* and in *Proceedings of the Royal Society B*. Several articles of mine have also appeared in *BBC Wildlife Magazine*. Specific topics of these publications include: ecology and cognition of tool use in chimpanzees, chimpanzee culture, meat eating and hunting specialization in chimpanzees, botanical skills in chimpanzees, long-term spatial memory in chimpanzees, chimpanzee conservation, female gregariousness in chimpanzees, social behavior and cognition in primates, habitat use and competitive exclusion among sympatric chimpanzee, gorilla and elephant, cultural differences between neighboring chimpanzee communities, reciprocity and trades in wild chimpanzees, locomotion and tool-use in chimpanzees, altruism in forest chimpanzees, adoption in chimpanzees, paternity and social rank in wild chimpanzees, feeding competition in chimpanzees, male aggression and sexual coercion in chimpanzees, reciprocation of grooming in chimpanzees, vocal, gestural and locomotor responses of wild

chimpanzees to intruders, chimpanzee population size, social bonds in chimpanzees, sophisticated Euclidean maps in forest chimpanzees, integration of chimpanzee and human culture, wild ape health, infant mortality cycles in chimpanzees, sexual swelling cycles in chimpanzees, food choice in chimpanzees, paternity in wild chimpanzees, locomotor behavior in chimpanzees, cooperative hunting in chimpanzees, bisexually-bonded ranging in chimpanzees, group-specific calls in chimpanzees, effects of community size on wild chimpanzees social organization, decision-making in conflicts of wild chimpanzees, mortality rates in chimpanzees, female reproductive strategies, buttress drumming by wild chimpanzees, innovation in wild chimpanzees, predator-prey systems in chimpanzees, nut cracking in wild chimpanzees, handedness in chimpanzees, symbolic communication in wild chimpanzees, teaching in wild chimpanzees. My Curriculum Vitae fully sets forth my educational background and experience and is annexed hereto as “**Exhibit A**”.

Basis for Opinions

10. The opinions I state in this Declaration are based on my professional knowledge, education, training, and 46 years of research and field work with chimpanzees, mainly in the wild, as well as my knowledge of peer-reviewed literature about primatology published in the world’s most respected journals, periodicals and books that are generally accepted as authoritative in the field of primatology, many of which were written by myself and colleagues with whom I have worked for many 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

11. Chimpanzees 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 analyzing their behavior.

12. The scientific work on chimpanzees over the past decades shows they are an especially sophisticated species, sharing a surprising number of psychological attributes with human beings. The limitless inventiveness of their behavior and ability to adapt to different environments, ranging from the dense rainforest to open mosaic savannas, is nothing short of astonishing. After several decades of studying chimpanzees, I am still regularly learning new aspects about their life.
13. Scientific knowledge about chimpanzees is vast and has been increasing at an exponential rate. We must therefore be aware that what we know now is still only a small fraction of what chimpanzees are capable of.
14. Here I discuss several areas particularly relevant as evidence of the autonomous nature of chimpanzees. In light of their autonomous nature, confining chimpanzees in non-species specific living conditions is devastating to their physical and psychological well-being.

Chimpanzees are autonomous beings who possess advanced cognitive abilities

A. Foreplanning and Episodic Memory: Components of an Autobiographical Self (Remember past and plan the future)

15. Self-aware, autonomous individuals understand that they exist through time, that is, they have an autobiographical self. This level of awareness makes it possible to recollect past events and plan for the future. Chimpanzees clearly possess an autobiographical self, as they are able to prepare for the future (Beran et al., 2004; Mulcahy and Call, 2006; Osvath, 2009; Osvath and Osvath, 2008) and can remember highly specific elements of past events over long periods of

time (Janmaat et al., 2013a, b; Martin-Ordas et al., 2013; Normand and Boesch, 2009; Normand et al., 2009).

16. A wealth of experimental evidence shows that chimpanzees plan for the future. For instance, in a sequential numbering task it was found that their performance was only explainable if the chimpanzees were planning their responses one step ahead (Beran et al., 2004). Also, they can select, transport and save appropriate tools for a task in the future (Mulcahy and Call, 2006; Osvath and Osvath, 2008). The planning for future use of tools and objects has not only been demonstrated experimentally, but has been documented in a long-term observational study of spontaneous tool use and innovation in a captive chimpanzee (Osvath, 2009). In this study, a male chimpanzee in a zoo collected and stowed away sharp stones in his display area for use as projectiles thrown at visitors (Osvath, 2009). The chimpanzee also engaged in deceptive behavior by stashing the stones in a “calm manner” so as not to be noticed (Osvath and Karvonen, 2012). Therefore, chimpanzees are not only able to mentally prepare for an upcoming event and alter the future but they are able to use intentional deception in the process. Intentional deception is a hallmark of the ability to take the perspective of and model mental states in others (de Waal, 2005).
17. Just as they can mentally run through steps in their mind to plan for future actions, chimpanzees can remember and mentally re-experience events in the past (also known as episodic memory). Several experimental studies demonstrate this capacity in chimpanzees (Martin-Ordas et al., 2010; 2013). For instance, chimpanzees can use information about tools they recall from an event that occurred only four times three years earlier (Martin-Ordas et al., 2013). They can also make complex decisions about which food items to choose based on perishability by

keeping in mind two food items presented separately one hour apart (Martin-Ordas et al., 2013).

18. It is critical for chimpanzees living in a forest to retain knowledge of good sources of food using spatial memory. And it is particularly advantageous to remember which trees tend to yield an abundance of fruit. In an observational study of several female chimpanzees living in the Tai Forest in the Ivory Coast, my team discovered that, during their travels, they visited specific abundantly fruiting trees in a very deliberate and goal-directed manner, rather than through haphazard discovery. They clearly recalled the location of some of these trees for as long as three years. These visits were not initiated by visual cues or smell and occurred more often when females were foraging alone. These results strongly suggest that goal-directed monitoring is guided by a long-term “what and where” (episodic) memory of the location of good potential sources of fruit. (Janmaat et al., 2013a).
19. In another study my team found evidence that the chimpanzees were using botanical features of the trees in their foraging plans. That is, they took advantage of the timing of fruiting of different types of trees (e.g., making efficient direct lines to trees that were fruiting synchronously) and based their expectations of finding fruit on this botanical knowledge (Janmaat et al., 2013b). In another set of studies of foraging, my colleagues and I found that the chimpanzees knew precisely where they were going, were traveling in a straight line to reach food sources, and were aware of the distance they needed to walk. Moreover, the direction they started out in was exactly the direction needed to take them to their food source, suggesting that they were not meandering and using landmarks along the way but, rather, were relying on detailed spatial memories. They also returned to a food source from many different

directions depending upon their starting point. (Normand and Boesch, 2009; Normand et al., 2009).

20. These observations strongly suggest that, when foraging, the chimpanzees are using sophisticated Euclidean mental spatial maps based on long-term episodic memories (Normand and Boesch, 2009; Normand et al., 2009). These findings not only provide evidence of complex mental representational abilities in chimpanzees but also the use of long-term knowledge from specific memories within the context of an autobiographical sense of their own experiences over time.

B. Cultural traditions

21. Culture depends upon several complex cognitive capacities, including significant behavioral flexibility and innovation, social learning, cumulative knowledge, and adherence to traditions. The evidence for these capacities in wild chimpanzees is robust and indisputable and our knowledge of the richness of their different cultures continues to grow. Chimpanzees possess widespread cultures that are found in all known populations and that distinguish them from other populations (Boesch, 2003, 2012; Boesch et al. 2020; Whiten and Boesch, 2001; Whiten et al. 1999, 2001). Within the same forest, neighbor groups distinguish themselves with different cultural traits that are maintained over decades despite the exchange of females across groups. New immigrants adopt the cultural traditions of their new group rapidly through social learning (Boesch, 2003, Luncz et al., 2012, 2013, 2014, 2015) allowing for the maintenance of continuity in different traditions within each group. They also show evidence of symbolic cultural traditions based on arbitrary gestures that have no direct connection with their meanings but are understood by all group members (Boesch, 2003; 2012). Finally, excavation studies in the Tai forest revealed that cultural traits in chimpanzees have a long history spanning

over hundreds of generations (Mercader et al. 2002, 2007). These characteristics of chimpanzee culture – diverse, innovative, group specific, history and even symbolic – point to the striking similarities in the cognitive mechanisms underlying chimpanzee and human culture.

C. Tool use

22. All chimpanzee populations throughout Africa use and make tools of different shapes and sizes to solve technical challenges in their environment. As they are found in a number of different ecological habitats in Africa, chimpanzees have been seen to use diverse and extensive sets of tools helping them to access rich food sources, like ants, termites, honey, water, and hard-shelled nuts (Goodall 1970, Nishida 1973, McGrew 1974, McGrew et al. 1979, Anderson et al. 1983, Boesch and Boesch 1990, Sugiyama 1994, Suzuki et al. 1995, Sanz et al. 2004, Pruetz and Bertolani 2007, Fowler and Sommer 2007, Hernandez-Aguilar et al. 2007, Watts 2008, Boesch et al. 2009, Koops et al. 2013, Wilfried and Yamagiwa 2014, Pruetz et al. 2015, Boesch et al. 2017). All individuals of both sexes were seen to use and make tools, with the exception of the very young ones who were provided these food resources by their mothers until they can obtain them on their own (Boesch and Boesch-Achermann 2000).

D. Understanding Death

23. An understanding of death requires an ability to recognize the continuity of self and others through time. Self-recognition, which chimpanzees demonstrate, would be a requirement for understanding the irreversibility of death. Self-aware individuals, such as chimpanzees, seem to have an understanding of death as a kind of irreversible situation. They often respond with elaborate mourning rituals that demonstrate some understanding of the concept of life and its ending. Years of independent observations of wild chimpanzees in the Tai forest and elsewhere

in Africa lead to the conclusion that chimpanzees realize dead individuals do not move and do not need help anymore, and that they will remain in that state. Once they come to this realization they enact behaviors which can be described as mournful, respectful, and almost-ritualistic (Boesch, 2012; Goodall, 1986).

24. As an example, a 10-year-old female, Tina, was mortally wounded by a leopard in the Tai forest. Upon seeing her, several individuals in the community surrounded her body. The alpha male and two high-ranking females inspected the body by sniffing the wound while others held her hand, as if testing for a reaction. The body was guarded by three males and the highest-ranking female. Infants and low-ranking adults were systematically chased away. The only infant allowed to approach Tina's body was her brother, Tarzan. The males, who never groom a juvenile female under normal circumstances, spent an hour grooming her body. One of the males gently tapped Tina on the chin while looking in her eyes and shook her arm while looking at her face as if to confirm the death. After six hours all finally left in a silent procession (Boesch, 2012).
25. In another observation at Gombe National Park, the deceased, an adult female, was visited in succession by other high-ranking members of the group while juveniles and lower-ranking members looked on but were kept from touching the body. Several individuals formed a tight circle around her corpse and the alpha males guarded her (Goodall, 1986). There is even evidence of covering the body with leaves and branches (Boesch, 2012).
26. Altogether, numerous independent observations from different chimpanzee communities strongly suggest a complex group response unique to death involving guarding of the dead body for hours, helping orphans who remain close to their dead mothers, testing for a reaction by shaking the body, grooming the body but not licking blood or wounds as is usually done

with injured individuals, showing signs of sorrow when leaving the body, showing signs of respect by keeping youngsters at bay, and, sometimes, carrying the corpse to a safe place. (Boesch, 2012; Boesch and Boesch-Achermann 2000). It is notable that chimpanzees distinguish between mortal wounds and other kinds of injuries. If the individual is still alive, other chimpanzees will sometimes clean the wound by licking it and removing debris. However, no one licks similar wounds of deceased individuals; they seem to understand that it will not do any good (Boesch, 2012).

27. Another example of distress at the death of a friend and the realization that the individual is beyond help comes from one chimpanzee, Falstaff's, severe injury during a leopard attack and the response of his hunting partner and friend, Snoopy. Snoopy stayed with the immobile Falstaff for two hours even though the rest of the males of the community were moving on. Snoopy would walk a few steps and look behind him at Falstaff to see if he was following him. He then moved 200 meters north and drummed loudly and repeatedly on a large tree to apparently communicate to Falstaff. When Falstaff did not answer Snoopy let out a loud distressed scream as he finally realized Falstaff was not coming and he had to move on (Boesch, 2012). In the case of mothers who lose an infant, although they may be hesitant to abandon the corpse, they do not behave towards their dead infants as they would if they were alive and they eventually leave them behind (Boesch, 2012).
28. These and many other examples strongly indicate that chimpanzees faced with the death of a friend or family member will not immediately give up but, after several attempts, experience strong bouts of grief and distress as they come to the realization that the deceased is not coming back and the condition is irreversible. Their responses are, at the least, equivalent to the first stage of understanding of death – irreversibility – which human children pass through at about

age five (Speece and Brent, 1984), which is well past the age of the emergence of self-recognition and during a period of developing theory of mind and empathy.

E. Empathy and Compassion

29. Empathy is the ability to put oneself in the situation of another perceptually and cognitively. It is only possible if one can adopt another's perspective. Empathy, and, in particular, compassion, require not only a sense of self but the ability to attribute feelings to others, i.e., to understand that someone else could be in a different state than you or could be feeling differently from you. Evidence from both captive and wild chimpanzees indicates that they are capable of highly developed empathic abilities (de Waal, 1990).
30. I have observed clear instances of compassionate care and empathy among wild chimpanzees towards injured individuals (Boesch 2012). Moreover, responses to others' wounds are not based on simple learning rules because wound licking and tending are only done under specific circumstances, e.g., when the wounded individual is too weak to care for himself or when wounds are in hard-to-reach places. Wound tending is also done by individuals who are not close family relatives of the injured. Finally, empathic tendencies vary across chimpanzee individuals and populations. Wound-tending is quite common in the Tai forest chimpanzees. Saliva has a strong antiseptic property and its regular application to a fresh wound speeds up healing. Tai chimpanzees have been observed licking wounds on the injured feet of others and cleaning out a cut over an eye. Moreover, chimpanzees are aware of the intentions of another chimpanzees when being helped. I observed a female chimpanzee whose hand was trapped in a snare, extend her wounded hand to a male friend and sit still to allow him to remove the cables (Boesch, 2012). These and other examples are striking evidence that chimpanzees

exhibit empathy, compassion and recognition when someone else is trying to help them – all complex aspects of self-awareness and autonomy.

F. Duties and Responsibilities

31. Similar to human beings, chimpanzees bear duties and responsibilities to one another. This is evidenced by the obligations they fulfill in their social life in the wild, including in areas such as group defense, rescue, assistance to wounded individuals, rewards and punishment in the hunting context, as well as providing support for weak individuals.
32. Group defense: Territories are aggressively defended in all chimpanzee populations that have been studied and the participants in patrols controlling the borders are mainly the adult males. Whenever intruders are spotted, males on a voluntary basis converge to defend their territory as a team (Goodall 1968, Mitani et al. 2002, Boesch and Boesch-Achermann 2000). If not enough males are present, the firsts silently sit down and wait for other group members to join. Only once a large enough group is built are they going to confront the others (Boesch and Boesch- Achermann 2000, Boesch et al. 2009, Boesch 2009). This reveals some expectations about the social participations of group members.
33. Rescue: Impressive supports by male group members are provided to rescue isolated individuals that have been taken prisoner by intruders (Goodall et al. 1979, 1986, Boesch 2009, 2012). Outnumbered individuals during intergroup encounter were observed to sustain severe injuries in 40% of the cases, leading to death in 15% of the severe attacks (Mitani et al. 2002, Boesch et al. 2008). In one example in the Taï forest, a single adult male with an adopted infant on his back rushed for 600 meters to rescue an adult female from his group that was trapped and beaten up by 5 male intruders. His appearance created enough of a havoc to allow the female to escape. In Taï chimpanzees, such risky supports are provided in 28% of the

intergroup encounters (Boesch et al. 2008). This spontaneous high level of altruism toward group members in this chimpanzee population reveals the sense of obligation felt by them to help and protect one another.

34. Help and tending of injured group members: Tai chimpanzee group members have been seen to help and tend the injuries of wounded individuals for extended periods of time. What is striking in this helping of others is that upon hearing the alarm calls of an attacked individual (through a leopard or another chimpanzee), the males hearing the calls within seconds would make loud supporting whaa-barks, reassure one another and rush towards to caller to help. The rapidity of the help is decisive in the case of a leopard attack (Boesch 1991, 2009). I have always seen all males visibly present in rushing to support, so as if this within-group solidarity was obvious to them. If callers had sustained injuries, the rescuers and other group members would converge towards the injured and clean and lick the wounds for many hours, and in some cases such help would be extended for many days as long as the wounds were not healed and presented a risk of infection.

35. Important social contributions are rewarded in hunting context: The striking fact in the hunting context is the very high level of cooperation between the males that act as a team to capture small monkeys up in the trees (Boesch and Boesch 1989, 2000, Boesch 2002, 2009, Mitani et al. 2002). In Tai, once a capture has been made, the meat-sharing rules favor the hunters; males receive more meat if they participated in the hunt and even more so if they made an important contribution to the hunt (Boesch 1994, 2002, 2009). What is intriguing is that hunting roles requiring anticipation of the prey movements are as equally well rewarded as capturing the prey, even if the individuals doing such movements were not making a capture. Somehow, the group members realize that anticipating a prey is an essential part of a successful

hunting team and they place an equally high value on this as doing the capture itself (Capturing the prey and performing complex anticipation ensures the same amount of meat, Boesch 2002). Less important hunting movements, such as chasing or driving the prey, are not valued so highly by other group members, as they rarely make a decisive contribution to the capture (Boesch 2002, 2012). This higher social valuing of hunting contribution by other group members allows for this cooperative system to be stable (Boesch 1994, Packer and Rutman 1988, de Waal 1996).

36. Punishment is part of the meat sharing rules: The rewarding of certain action leads to the passive punishment of individuals that are looking to access meat, but because they did not contribute to the hunt are only meagerly receiving some: Individuals that were present during the hunt but did not participate in it, received 2.6 times less meat than hunters (Boesch 2002, 2009). This rewarding of one's hunting contribution is often in conflict with dominance hierarchy (as dominant males are not always present during a hunt or simply not hunting), and despite the impressive and sometimes violent attempts by the dominant males to access the meat, hunters will be reliably allowed access to more meat by the sharing group (This observation applies only to the Tai chimpanzees and not to other chimpanzee populations where the meat sharing patterns follow different rules [e.g. Goodall 1986, Nishida et al. 1992, Uehara et al. 1992, Watts and Mitani 2002]). Regularly, we see dominant males, which want to access meat, display violently towards meat eaters, but access to meat is denied by the group of chimpanzees present (Boesch and Boesch 1989). In other feeding contexts, like in fruiting trees or when large amounts of fruit are clustered on the ground, alpha males can ascertain their priority of access; only in meat eating is their access denied or limited, when they did not participate in the hunt.

37. High investment to support weak individuals: Evidence from both captive and wild chimpanzees indicates that they are capable of highly developed empathic abilities (de Waal, 1990). Young chimpanzees are breast-fed and cared for 5 years by their mothers, so that when they lose them they remain especially vulnerable. Adoption of orphans is rather common in chimpanzees, and as seen in other primate species, females are often doing the adoption of orphans (Goodall 1986, Riedman 1982, Thierry and Anderson 1987). In Tai chimpanzees, we observed that half of the adoptions were done by adult males, which was intriguing, and in a few cases we could show that they were not genetically related to the adopted ones (Boesch et al. 2010). Adoption is a very costly behaviour as it may require carrying the infant over long distances for days and months, sharing the nest and food with them and protecting them in cases of social squabbles.

I declare under penalty of perjury under the laws of the state of Michigan that the foregoing is true and correct, and that I am physically located outside the geographic boundaries of the United States, Puerto Rico, the United States Virgin Islands, and any territory or insular possession subject to the jurisdiction of the United States.

Executed on

10 day of November 2023
(date) (month)

Leipzig, Germany
(city or other location, and state)

Germany
(country)

Christophe Boesch, Ph.D


(signature)

EXHIBIT A

RECEIVED by MCOA 4/23/2024 9:03:40 AM

Curriculum Vitae of Dr. Christophe Boesch



Personal

Date of Birth: 11-08-51 in St Gallen, Switzerland
Nationality: French and Swiss
Marital status: Married, two children (1983, 1988)
Languages: French, English, German

Education

Secondary school	1965-68: Lycée François Villon, Paris 1968-70: Collège Calvin, Genève degree: Maturité scientifique.
University of Geneva, Switzerland	1970-75: Faculty of Biology, Diplôme de biologiste, 1975: supervisor: Prof. Hans Huggel
University of Zürich, Switzerland	1979-1984: Department of Ethology and Wildlife Research Ph.D. degree, 1984: Title: "Nut-cracking behaviour of wild chimpanzees", supervisor: Prof. Hans Kummer.
University of Basel, Switzerland	Habilitation degree (Privat Dozent): 1994. supervisor: Prof. Stephen Stearns.

Professional experience

1973	3 months of census work on the Mountain Gorilla in the Virunga National Park, Rwanda. Supervised by Dr. Dian Fossey. This work was the basis of my diplom master thesis.
1975 and 1977	Teaching biology at a secondary school, Collège Moderne, in Geneva.
1976	8 months in the Taï National Park, Ivory Coast, for a preliminary study of the nut-cracking behaviour of wild chimpanzees and an evaluation of the feasibility of a long-term study.
1978	4 months assistant at the Department of Ethology and Wildlife Research (Prof. Hans Kummer) at the University of Zürich.
1979-ongoing	Long-term study of the wild chimpanzees in the Taï National Park in the Ivory Coast. Principal themes under study; ecology, social

	organisation, tool-use, hunting, cooperation, food-sharing, inter-community relationships, cognitive capacities.
1984-1990	Postdoctoral Research Associate at the Department of Ethology (Prof. Hans Kummer) at the University of Zurich.
1987-1989	4 months visit at the Department of Population Biology (Prof. Stephen Stearns), University of Basel.
1990 and 1992 (April to July)	Comparative field study on the chimpanzees of Gombe Stream National Park, Tanzania.
January 1991- September 1997	Assistant professor at the department of Population Biology (Prof. Stephen C. Stearns), University of Basel (Switzerland).
1995 Spring	Visiting Professor, University of Rennes, France.
1996 Spring	Visiting Professor, Ecole Normale Supérieure, Paris, France.
1997- ongoing	Director, Max Planck Institute of Evolutionary Anthropology in Leipzig, Germany.
1999 (August to October)	Comparative field study on the chimpanzees of the Mahale Mountains National Park, Tanzania.
1999- ongoing	Honorary Professor, Dept. of Zoology, University of Leipzig, Germany.
2000- ongoing	Founder and President of the Wild Chimpanzee Foundation.

Teaching experience

Directing field work of students:	Diplom thesis: 16 students of different European universities. Ph. D. thesis: 24 students from European and American universities. Post-doctoral work: 8 students from European universities.
Teaching at the University of Basel:	<i>Spring 1991:</i> Behavioural Ecology of Primates (2 hours per week). <i>Winter semester (1991- 1997):</i> Evolution, Ecology and Behaviour (4 hours per week). Behavioural Ecology and Sociobiology (2 hours per week). Seminar on Population Biology (1 hour per week). <i>Summer semester (1992-1997):</i> Field course in Population Biology (2 weeks). Field course in Evolutionary Biology (1 week)
Teaching at the University of Leipzig:	<i>Summer semester (1999-ongoing):</i> Behavioural Ecology (2 hours per week)

Offices and advisory work

- Fyssen Foundation, Paris, scientific board member (1985-1989)
- World Wide Fund for Nature International (WWF Int.): Consultant to negotiate with the Ivorian government a conservation project for the Taï National Park (1987-1988).

- World Wide Fund for Nature International: Coordinator project in the Taï National Park, Ivory Coast (1988-1992).
- Committee for the Care and Conservation of Chimpanzee (CCCC), executive council (1988-1992)
- Society for the study of Animal Behaviour, Member (1993-1998)
- IUCN/SSC Primate Specialist Group (1986-ongoing)
- International Primatological Society (1986-ongoing)
- International Primate Protection League (1986-ongoing).
- International Journal of Primatology, Editorial Board (1990-2004).
- Behavioral and Brain Sciences, Associates (1991-ongoing)
- Pan Africa News, Editorial Board (1997-ongoing)
- Steering Committee of the World Heritage Species Status Taskforce, Member (2002-ongoing)
- IUCN/SSC/ Section of the Great Apes (SGA), Executive Committee Member (2003-ongoing)
- Co-chairman of the Scientific Committee of the Great Apes Survival project (GRASP) of the UNEP/UNESCO (2003-ongoing)

Grant reviewer: NIH, National Science Foundation (USA), Swiss National Science Foundation, Leakey Foundation, National Geographic Society, Fulbright Foundation, Wenner-Gren Foundation

Ad Hoc Reviewer: Behavioural and Brain Sciences, Animal Behaviour, Nature, Behaviour, Ethology, Primates, International Journal of Primatology, American Journal of Primatology, Folia Primatologica, American Journal of Physical Anthropology, Current Anthropology, Behavioural Ecology, Proceedings of the National Academy Science, Serie B, Quarterly Review of Biology, American Naturalists, Journal of Human Evolution, Proceedings of the Royal Society: Biological Sciences, Journal of Evolutionary Biology.

Awards and other honours

1985	Prix Cortaillod for talented Swiss scientists under 35 years old, University of Neuchâtel, Switzerland.
1987	Great Apes Fellowship of the Leakey Foundation, Pasadena.
1989	Great Apes Fellowship of the Leakey Foundation, Pasadena.
1999	Phillip Morris Research Price, München.
2013	Medal "Officier de l'Ordre National" by the president of Côte d'Ivoire Alassane Ouattara 2013
2015	Prof. Boesch and the Wild Chimpanzee Foundation received the St. Andrews Prize for the Environment.

Publications

Books

Boesch, C. 2012: Wild Cultures: A Comparison between Chimpanzee and Human Cultures. Cambridge: Cambridge University Press.

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EXHIBIT B

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Exhibit B

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EXHIBIT 6

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AFFIDAVIT OF MARY LEE JENSVOLD

If duly sworn, I will testify:

Introduction and Qualifications

1. My name is Mary Lee Jensvold. I reside in Chapel Hill, North Carolina and work remotely. I am an Associate Director, Primate Communication Scientist, and Board Member at Fauna Foundation, a chimpanzee sanctuary in Quebec, Canada. Since 1986, I have studied the behavior of chimpanzees. I received my B.A. in Psychology from the University of Oregon, a M.S. in Experimental Psychology from Central Washington University in 1989, and a Ph.D. in Experimental Psychology from the University of Nevada, Reno in 1996.
2. I submit this Affidavit in support of the Nonhuman Rights Project, Inc.'s complaint for a writ of habeas corpus regarding the captive chimpanzees at DeYoung Family Zoo (DFZ). I am a non-party to this proceeding.
3. I am currently Senior Lecturer in the Department of Anthropology and Museum Studies and former Director of the Chimpanzee and Human Communication Institute at Central Washington University. I am also faculty in the Primate Behavior and Ecology Program, at Central Washington University. I have taught the following courses at Central Washington University: Primate Social Behavior, Chimpanzee Culture and Communication, Introduction to Primate Laboratory Experience, Laboratory Work in Primatology, Primate Culture and Cognition, Introduction to Psychology, Psychology of Thought and Language, and Nonverbal Behavior, Research Methods in Primatology, among others. I have advised 36 Masters level graduate students through successful

thesis defenses and graduations and hundreds of undergraduate interns at Central Washington University and other universities.

4. I have been a member of the Board of Directors of the Animal Welfare Institute since 2007 and Friends of Washoe (a nonprofit organization dedicated to the welfare of chimpanzees) since 1999, and have been on the Advisory Board of the Fauna Foundation (a chimpanzee sanctuary in Quebec, Canada) since 1999 and became a board member in 2013. From 1997 – 2000 I served on the Scientific Advisory Board for the National Chimpanzee Sanctuary. I have held positions as a chimpanzee behaviour consultant at Fauna Foundation, a Principal Investigator for “Caring for Chimpanzees” Earthwatch Program at Central Washington University, and have been a research assistant for sign language studies of chimpanzees at the University of Nevada, Reno. I was awarded the Sigma Xi Distinguished Lecturer Award for 2013 – 2015. I am on the Steering Committee for the North American Primate Sanctuary Alliance.
5. My research specialization is in gestural communication and use of American Sign Language in chimpanzees. Additionally, I research play behaviour, imagination, culture and intelligence, as well as husbandry, welfare and environmental enrichment in captive chimpanzees. My research settings have been in sanctuaries, behavioral research facilities, and zoos. Recently my work has included compassion fatigue in human caregivers of chimpanzees. I have thirty-seven years of experience working with and studying chimpanzees and daily firsthand experience interacting with them in a variety of captive settings. As such, I possess both a theoretical and applied understanding of chimpanzee behaviour.

6. I have published 41 peer-reviewed articles, book chapters and encyclopedia entries on gestural communication, use of American Sign Language, the evolution of social communication, as well as environmental enrichment, effects of enclosures and social interactions, in chimpanzees. My papers have appeared in some of the most prestigious journals in the area of animal behaviour, including *Animal Cognition*, *American Journal of Primatology*, *Journal of Applied Animal Welfare Science*, *Human Evolution*, *Animal Behavior and Cognition*, *Journal of Comparative Psychology*, *Animals* and *Journal of Sociolinguistics*. I edited and published a book with chapters on captive and free-living chimpanzee behavior and intelligence.
7. I have given and/or co-authored 104 presentations at professional conferences throughout the United States and have also given 27 invited addresses at professional research conferences and at various universities throughout the United States. These presentations have covered the following relevant topics: gestures and signing, cultural transmission, laughter and play, vocabulary development (American Sign Language) and maintenance, conversational use of sign language, evaluation of enriched captive environments, impact of zoo visitors on chimpanzees, methods to improve captive chimpanzee care, and neuroscientific models of continuity across ape and human communication systems. My Curriculum Vitae fully sets forth my educational background and experience and is annexed hereto as “**Exhibit A.**”
8. I am unique in my professional experience because it combines the applied or practical aspects of caring for chimpanzees and of directing a sanctuary with the academic and scientific rigors of analyzing and studying chimpanzee behavior. I have engaged in, supervised, and developed protocols in daily care of chimpanzees for 37 years. This

includes preparing diets, observing behavior and health, and cleaning enclosures for signing chimpanzees in the Friends of Washoe Fouts laboratory on the campus of Central Washington University in Ellensburg, WA. In 1993, when the chimpanzees moved to another larger facility on campus, I was also involved from the ground up with establishing the new protocols and routines of daily care for these chimpanzees. I trained and supervised hundreds of student interns in these procedures.

9. During this time, I earned a Master's degree, Ph.D., and ultimately became director of CHCI. Over these decades, I have interfaced with the Institutional Animal Care & Use Committee (the university and federal oversight committee), the U.S. Department of Agriculture (USDA), and the Global Federation of Animal Sanctuaries (GFAS). I was involved in coordinating everything for the institute, including maintenance, veterinary care, daily husbandry routines, and diet. At the same time, I was a faculty member in the Primate Behavior program at Central Washington University. I supervised graduate students, public education programs, and student interns, summer interns, and volunteer programs. I supervised hundreds of student research projects resulting in publications and presentations described above. My research has expanded to the study of chimpanzee care in other facilities. At Fauna Foundation, where I have worked the last 9 years, I have developed outreach and training programs, revised care protocols, and again am involved in all aspects of care and administration, including budgeting, outreach, and behavioral studies.

Basis for Opinions

10. The opinions I state in this Affidavit are based on my professional knowledge, education, training, and 37 years of research with chimpanzees, as well as my review of peer-

reviewed literature about primatology published in the world's most respected journals, periodicals and books that are generally accepted as authoritative in the field of primatology, many of which were written by myself and colleagues with whom I have worked for many years and whose research and field work I am personally familiar with. A full reference list of peer-reviewed literature cited herein is annexed hereto as “**Exhibit B**”.

Opinions

11. Like human beings, chimpanzees are autonomous beings who possess advanced cognitive abilities. 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 including humans, we can explore and investigate them by observing, recording and analyzing their behavior.
12. Chimpanzees in captive environments who are unable to exercise their autonomy can suffer severe physical and psychological harm, including stereotypical and abnormal behaviors, aberrant self-directed behaviors (such as self-manipulation, self-scratching, self-grasping, and self-injurious behavior), increased aggression, decreased exploration, low dominance rank, and reduced or abnormal sexual behaviors.

I. Chimpanzees are autonomous, highly cognitively complex beings

A. American Sign Language and communication

13. Chimpanzees who have acquired comprehension and production of American Sign Language (ASL) provide a unique window into the minds of chimpanzees because ASL

provides a way for them to express themselves in a manner that humans understand well. The chimpanzees I have worked with have demonstrated purposeful communication, conversation, understanding of symbols, perspective-taking, imagination, and humor through my (and my colleagues') studies of their use of ASL over many years (Ross et al., 2009; Jensvold and Fouts, 1993; Jensvold and Gardner, 2000, 2007; Leitten et al., 2012; Leeds and Jensvold, 2013; Egan and Jensvold, 2015; Jensvold and Dombrasusky 2019; Jensvold, et al., 2023). Moreover, the development of their use and understanding of sign language, along with their natural communicative gestures and vocalizations, parallels the development of language in human children, pointing to deep similarities in the cognitive processes that underlie communication in chimpanzees and humans (Jensvold, 2009; Lyn et al., 2011).

14. Studies of cross-fostered chimpanzees, that is, those who have been raised by humans and acquired a symbol-based language, reveal similar patterns of cognitive and communicative development in human infants and chimpanzees. There are numerous parallels in the way chimpanzee and human communication skills develop over time, suggesting a similar unfolding cognitive process across the two species and an underlying neurobiological continuity (Fouts and Waters, 2001). Chimpanzees show some of the same early developmental tendencies and changes in their communication skills as human children (Brakke and Savage-Rumbaugh, 1995; Fouts and Fouts, 2004; Gardner and Gardner, 1989; 1998). For instance, chimpanzees acquire vocabulary in patterns that resemble human children, with the difference being that chimpanzees begin to sign earlier than children (Gardner and Gardner, 1994). The development of phrases in chimpanzees also parallels that in human children. Early vocabulary content of

chimpanzees resembles that of human children as well. Patterns of eye gaze and turn taking (Hartmann, 2011) in conversation resemble human children as well. Chimpanzees modulate their signs, for example, changing the place where a sign occurs, to change the meaning of signs, just as humans do (Charlcraft and Gardner, 2005). Declaratives are important because they show the communicator is using language as a way to share experiences with another and not just to request items like food or a toy. Both human children and signing and other symbol-using chimpanzees use declaratives to name objects, interact, and negotiate (Lyn et al., 2011; Leeds and Jensvold, 2013).

15. Chimpanzees also use symbols to comment on other individuals and about past and future events (Lyn et al., 2011). In my research we have the following records from a caregiver's interactions with a chimpanzee, Tatu, regarding a very ill chimpanzee, Yoko, at Fauna Foundation sanctuary. The first interaction occurred after Yoko had experienced a medical procedure which required humans to enter his enclosure. Tatu had witnessed the procedure. (signs are written in all capital letters)

- a. 1/10/14 The first day that [the medical staff] went in with Yoko they sent the rest of us out of the building. When we returned, everyone was out of Yoko's room and Tatu very excitedly signed to me PERSON IN THERE ([the sign] there gestured to the room Yoko was in). I make [a] surprised face [and ask Tatu] IN THERE? Tatu signed PERSON THERE.
- b. In the above interaction Tatu described something that had occurred while the caregiver was away; a past event, demonstrating memory. Later in the month, Yoko died during the night. The caregiver came in the following morning and described the following:

Yoko passed away on Jan 30, 2014 in the evening. The following morning when I came up to greet Tatu she immediately signed HURT. I asked her WHO HURT? Tatu replied THERE, PERSON HURT. I replied SORRY. Tatu signed HURT. I replied YES, PERSON HURT THERE, SORRY. Tatu then asked for a drink.

- c. The sign "person" is referring to another chimpanzee, Yoko.

16. Other chimpanzees have learned sign language. My late colleague Dr. Mark Bodamer (2020) described meeting a chimpanzee, Bruno, at the Laboratory for Medicine and Surgery in Primates (LEMSIP). Bruno had learned signs as a child before he lived in the laboratory. Bodamer met Bruno after the chimpanzee had been in the laboratory for 16 years. None of the laboratory technicians knew signs so Bruno had been without exposure all of those years. In ASL Bodamer asked Bruno his name. Bruno replied KEY OUT (pp. 228-230).
17. The ability to communicate about past and future events is based on the shared sophisticated cognitive capacity for “mental time travel” for which there is substantial evidence in chimpanzees (Osvath and Osvath, 2008). In fact, chimpanzees have been found to make more statements about what they intend to do in the future compared with human children (Lyn et al., 2011). Chimpanzees and human children also combine gestures with pointing to refer to objects (Krause and Fouts, 1997). Therefore, these findings show that chimpanzees can make declarative statements and, thus, use language in a similar purposeful way as human children do (Lyn et al., 2011; Leeds and Jensvold, 2013).
18. Purposeful communication is based on conversational interaction in which each of the participants exchange turns communicating in a give-and-take manner and respond appropriately to the communicative actions of each other. Moreover, when the conversation becomes confusing, participants make contingent adjustments, e.g. offering a revised or alternative utterance/gesture or repeating a gesture or “sign” in order to continue the conversation. Signing chimpanzees demonstrate contingent communication with humans at the same level as young human children (Leitten et al., 2012). When

humans feel that a conversation has broken down they repeat their utterance and also add more information to the original utterance. Likewise, chimpanzees engaged in sign language conversation with humans respond in the same way. When they make a request and it is satisfied, they cease signing their request. When the request is misunderstood, refused, or not acknowledged, chimpanzees repeat and revise their signing until they get a satisfactory response. As in humans, this pattern of contingency in conversation is a key demonstration of volitional and purposeful communication and thought (Leavens et al., 2005; Leitten et al., 2012).

19. In one of our studies, a human waited for a signing chimpanzee to initiate a conversation and responded in one of four ways: asking for more information, on-topic questions, off-topic questions, or negative statements. The rejoinders of the chimpanzees depended upon the kind of response they received from the human. Specifically, they reiterated, adjusted, and shifted the signs they were making to create conversationally appropriate rejoinders. For instance, if refused something by the human some of the chimpanzees persisted in their utterances while others shifted to another topic. Their reactions to and interactions with a conversational partner resembled patterns of conversation found in similar studies of human children (Jensvold and Gardner, 2000, 2007).
20. In other studies, chimpanzees have demonstrated the capacity to understand that conversation involves turn-taking and mutual attention. If chimpanzees wish to communicate with a human whose back is turned to them they will make attention-getting sounds, i.e. using only signs with a noisy sound component, such as smacking the hand. If the human is turned to them, the chimpanzees then switch to conversational sign language with few sounds (Bodamer and Gardner, 2002). Therefore, they intentionally

try to alter the attentional state of the human. Not only do chimpanzees engage in conversation when signing but both wild and captive chimpanzees string together multiple gestures to create gesture sequences (Campion et al., 2011; Hobaiter and Byrne, 2011; McCarthy et al., 2013). Gestures may be combined into long series, within which gestures may overlap, be interspersed with bouts of response waiting, or be exchanged back and forth between individuals. Here, too, chimpanzees' contingent use of gestural sequences demonstrates that their communication abilities are far more complex than simple calls based on stimulus and response. Chimpanzees adjust their gestures and gestural sequences to the attention state of the individual they are trying to communicate with, using visual gestures towards an attentive partner and tactile and auditory gestures more often toward inattentive partners. If the partner does not respond, they repeat the gesture and use one that is more effective at communicating (Campion et al., 2011; Hobaiter and Byrne, 2011; Larson et al., 2011; McCarthy et al., 2011). Therefore, there is an abundance of evidence that both signing and wild chimpanzees understand the give-and-take of a conversation and adjust their communication to the attentional state of the individual they want to communicate with. This demonstrates visual perspective-taking and mental state modeling.

21. Signing chimpanzees also sign amongst themselves. Such examples show that chimpanzee sign language use is not a simple response to prompting by humans and is similar to the way human children develop language. Furthermore, signing chimpanzees spontaneously use ASL to communicate with each other (Fouts et al., 1989; Jensvold et al., 2014). For instance, Loulis (a male chimpanzee) was not raised with humans and was not taught ASL by humans. Nor did humans use ASL in his presence. But he was the

adopted son of another signing chimpanzee, Washoe. Loulis acquired his signs from Washoe and other signing chimpanzees. He was the first non-human to learn a human language from other non-humans. Thus, Loulis observed other chimpanzees using the signs of ASL around him, like CHASE and TICKLE during play interactions. Moreover, Washoe would mold his hand into signs like MORE for more food. Loulis learned to use many signs in different categories (names, pronouns, verbs, etc.) as a direct consequence of social learning and being taught by his mother's intentional and goal-directed shaping of his abilities (Fouts et al., 1989). Washoe's behavior toward her adopted son demonstrates perspective-taking and empathy (Fouts et al., 1989). The chimpanzees sign to each other in social interactions to initiate, regulate and maintain the interaction (Leeds and Jensvold, 2013; Jensvold et al., 2014). My written records of signing chimpanzees include the following chimpanzee to chimpanzee interaction: Tatu and Loulis, who were lifelong friends, were meeting new chimpanzees through fencing at Fauna Foundation. Loulis was aggressively displaying toward the new chimpanzees. Tatu signed to the new chimpanzees, SORRY, apologizing on behalf of Loulis. We have numerous examples of the use of the sign "sorry" in this fashion (Collins & Jensvold, 2021; Jensvold et al., 2024).

22. Humans and chimpanzees exhibit a telltale sign of volitional use of language, that is, private signing or signing to themselves. For speakers this is known as private speech. There is much evidence to support the argument that private speech has many functions and is a part of normal development of communication, self-guidance, self-regulation of behavior, planning, pacing, and monitoring skills (Furrow, 1984; Vygotsky, 1962). Private speech helps children to control and regulate their emotions and thoughts by

focusing them on their own concerns and providing a buffer from external distractions. Private signing by signing chimpanzees has been well-documented (Bodamer et al., 1994; Fouts et al., 1984) and my colleagues and I have shown that there are numerous similarities to private speech in human children and chimpanzees (Bodamer et al., 1994). Chimpanzee private signing can be placed into the same functional categories as that of human children, and, just as with children, a few categories account for the majority of the utterances. In our studies we found that, just as in human children, a high percentage of the private utterances referred to objects present in the environment (Bodamer et al., 1994). These utterances by chimpanzees also accompanied behaviors or signs about a behavior before they performed it.

B. Imagination and play

23. Human children also use private speech during creative and imaginative play. For instance, children often talk to themselves when playing imaginative and pretend games. Private speech is related to more creative play – the more frequently children engage in private speech, the more creative, flexible, and original thought they display (Winsler, 2009). We have found that chimpanzees engage in imaginary private signing as well. Chimpanzees create word-play, or transform a sign or its referent to a different meaning, whether it is present or not. An example is placing a wooden block on one's head and referring to it, in sign, as a "hat" (Bodamer et al., 1994; Jensvold & Fouts, 1993; Egan & Jensvold, 2015). This is, by far, not the only form of imaginative play chimpanzees engage in.

24. Imagination is a key component of mental representation (the ability to represent an object or concept in one's mind), metacognition (the ability to reflect upon one's own

thoughts), and the ability to mentally create other realities. There are several reports of imaginary play in captive chimpanzees (Bodamer et al., 1994; Fouts et al., 1991; Gardner and Gardner, 1969; Hayes, 1952; Jensvold & Fouts, 1993), a captive bonobo (Savage-Rumbaugh & McDonald, 1988), and wild chimpanzees (Goodall, 1986; Hayaki, 1985). Goodall (1986) reported that a 4-year-old wild chimpanzee, Wanda, had been watching her mother, who was perched on a branch above a termite hill, dip a stick into the insects' hole and pull it out loaded with termites. Wanda then picked up a small twig, perched herself on a sapling branch, and poked her stick in a downward direction. A similar instance of imaginary play is very common in human children using cups, saucers, pots, and toy stoves to pretend to prepare and serve a meal as they see their parents do. In these instances a child uses adult tools to go through the motions of a common adult activity. Be it children using pots for cooking or chimpanzees using twigs for dipping, these are analogous behaviors. A compelling observation from a chimpanzee field researcher (Wrangham, 2022) is of an 8-year-old (childhood age) chimpanzee carrying a log like a doll; the chimpanzee carried the log on his back like chimpanzee mothers carry their babies, played tickle games with it like chimpanzee mothers do with their babies, and placed it in a little nest that he made in the trees. At night chimpanzees build nests in the trees to sleep.

25. My colleagues and I studied imaginary play in five signing chimpanzees and found strong parallels with that of 2-6 year old human children (Matthews, 1977), including in the categories of animation and substitution (Jensvold & Fouts, 1993). Animation is pretending that an inanimate object is alive, e.g., talking to a teddy bear, and substitution is pretending an object has a new identity, e.g., placing a block on the head as a hat (Egan

and Jensvold, 2015; Jensvold and Fouts, 1993). Altogether chimpanzees have demonstrated all six different categories of imaginary play found in human children.

26. A very similar behavior to imaginary play is deception; both require behaviors directed toward something that is not there and often involve modeling mental states. There are many instances of deception reported in chimpanzees (Goodall, 1986; de Waal, 2005; Melis et al., 2006; Whiten & Byrne, 1988). Since this is a common behavior and so closely related to imaginary play, it should not be surprising that chimpanzees have been observed in imaginary play.
27. Finally, in addition to imagination, chimpanzees have a sense of humor and are known to laugh under many of the same circumstances humans laugh, e.g., signing a “joke” or funny statement, during play, when tickled, etc. (Davila-Ross, 2009; Hedden et al., 2005). Altogether these findings provide further evidence for cognitive similarities between humans and chimpanzees in the domains of mental representation, intentionality, imagination, and mental state modeling – all fundamental components of autonomy.
28. Captive chimpanzees show an interest in drawing and painting. In my research we found that chimpanzees systematically make marks that demonstrate balance and respect for boundaries, which are aspects of aesthetics in human artwork. Additionally we found that the signing chimpanzees assign titles to their productions. There is evidence for consistent form in drawing that are titled the same. In this research, humans grouped drawings that the chimpanzee titled “Boot” together and others titled “Cup” together so humans were able to distinguish differences in form (Casti, Martinson, & Jensvold, 2019). This research supported other studies that concluded chimpanzee drawings are not random acts on paper, but are deliberate exploratory choices (Boyson, Berntson &

Prentice, 1987; Morris, 1962; Schiller, 1951, Smith, 1973; Zeller, 2007). This indicates autonomy.

C. Chimpanzees are highly social

29. Chimpanzees are highly social animals. In the wild, they live in groups of 20-200 individuals (Goodall, 1986; Stanford, 2018; Boesch & Boesch-Acherman, 2000). Within these communities, chimpanzees have fluid subgroups that adjust to social and environmental contexts and have relationships that last a lifetime. Their developmental milestones show their emotional and biological similarities with humans. After 8.5 months gestation, infants are completely dependent on their mothers and in constant contact with them during the first months of life. Infants are under the mother's watchful eye until about age 5, when she typically has another offspring.
30. During childhood, a young chimpanzee still remains with the mother and the younger sibling. Between 10-12 years of age, chimpanzees enter puberty. During this time of adolescence, they spend more time with other community members socializing and strengthening peer relationships, but still maintain a relationship with the mother (Plooij, 1984). Females in many communities emigrate to other communities during adolescence, about age 10-12 (Boesch, 2009). Males stay in their natal community for the duration of their lives which may last 50-60 years. Males have a social hierarchy characterized by Machiavellian-type politicking and maneuver through the ranks by forming alliances based on kinship, friendship, charisma, and sometimes fear-mongering. They form close alliances and coalitions with other males in lifelong bonds, and bond together to defend the community against neighboring communities (see Boesch & Boesch-Acherman, 2000; Goodall, 1986; Stanford, 2018; Mitani, Watts, & Mueller, 2002). Social interaction

and stimulation are essential for a chimpanzee's development, health, and wellbeing. As a corollary, when such interaction and stimulation are missing or inadequate in captivity, chimpanzees will likely suffer physical and psychological harm.

31. Species-typical social interactions of chimpanzees in the wild include greetings upon meeting others, such as embraces and kisses, and reassurance in times of excitement, such as calming touches. Interactions include hours spent grooming, which has a hygiene function but more importantly serves to reinforce bonds and decrease stress (Nishida, Kano, Goodall, McGrew & Nakamura, 1999). It provides tactile stimulation, which is essential for normal development of all mammal species, including chimpanzees (Goodall, 1986). Wild chimpanzees spend 6-33% of their waking time grooming with other chimpanzees (Pruetz & McGrew, 2001, p. 22).
32. Chimpanzees have a high degree of choice in their participation in subgroups. An individual can spend time on the periphery of the community or move through different subgroups depending on activities such as sexual grouping, feeding parties, mother and offspring groups, or hunting. Females often leave the community when they reach sexual maturity. This social flexibility is absent in captive environments and determined wholly by caregivers. In captivity, groups of chimpanzees are typically smaller and less fluid than in the wild. It is rare that zoos (or even some authentic sanctuaries) provide fission-fusion opportunities. Instead chimpanzees can end up spending time in separate parts of the enclosure (Duncan, et al., 2022; Ross et al., 2009). Some chimpanzees have poor to no social skills, and integration into a group can be difficult. Certainly, the personal choice to move to a neighboring community is absent in captivity. As male chimpanzees move through adolescence they endeavor to dominate all others in the group, becoming

aggressive (Goodall, 1986; Nishida, 2012). Caregivers must understand potential social partners and groupings and be able to read the nuance and subtleties of chimpanzee behavior.

D. Chimpanzees bear duties and responsibilities

33. Chimpanzees bear duties and responsibilities. One way this is demonstrated is by their social dynamics. Their communities are embedded in male hierarchy. Usually there is a single dominant male but often he holds that position by the support of other males. In these cases these dominant males demonstrate a sense of duty to their supporters. For example, the dominant male will provide grooming, access to females, and perhaps access to meat to his primary supporters. This is well described by Nishida (1993). Chimpanzees are also highly protective of their communities, and will go to great lengths to defend them. This involves their shouldering responsibility.

34. I worked with five chimpanzees over nearly three decades studying how they use American Sign Language to communicate with humans and each other (Gardner, Gardner, & Van Cantfort, 1989; Fouts & Mills, 1997; Jensvold, Wilding, & Schulze, 2014; Jensvold, 2014; Leeds & Jensvold, 2013; Leitten, Jensvold, Fouts, & Wallin, 2012; Jensvold & Gardner, 2000). For decades, the daily routine at the Central Washington University laboratory in Ellensburg, Washington, involved the chimpanzees participating in numerous activities with caregivers. These included husbandry duties.

35. For example, in the mornings, the chimpanzees helped clean enclosures by returning their blankets from the night before. The chimpanzees all participated; it was the duty that we placed upon them. When new caregivers appeared, the chimpanzees sometimes made an attempt at ditching their duties, but eventually they bore the responsibility of returning

blankets and other objects in the enclosure to the caregiver. This was done without bribery.

36. At meals, all of the chimpanzees were served a first course—such as smoothie or soup, depending on the meal—followed by a course of fresh fruit or vegetables, which was offered only if all of the chimpanzees ate their first course. If one of the chimpanzees refused to eat their first course, the others put pressure on the noneater. For example:

“Washoe was slow to drink smoothies after everyone had their fill and Washoe had only had a few small sips. I told her she needed 3 more drinks before fruit could be served. She took 1 sip right away, but then dawdled a while. Dar signed SWALLOW/ to me. I said yes. Washoe needs to swallow. He turned to Washoe and signed SWALLOW/ (4 times) very slowly. He turned back to me then and signed SWALLOW GOOD/.” (9.1.86) (Lopez, Pauli, Seymour, & Jensvold, 2023).

Other attempts at coercion may have been by offering her the soup and a spoon in the case of a soup course. The noneater nearly always capitulated and ate the first course. This individual behavior that affected the group demonstrated their sense of responsibility and duty.

37. Maternal behavior is another clear indicator of responsibility. The signing chimpanzee Washoe adopted a 10-month-old chimpanzee named Loulis. While they bore no genetic relationship, Washoe was a very protective adoptive mother. When I first met Loulis he was eight years old. Even at his late childhood age, Washoe was still very protective of Loulis. Graduate students such as myself lived in fear of Loulis’ screams, whether warranted or not, as they would bring Washoe down upon us instantly. Washoe would then immediately display aggressive behaviors to the caregiver in defense of her son.
38. Chimpanzees have duties to each other. Their relationships to each other are even more supportive than those with a human caregiver, no matter their level of fondness for the

human. If a chimpanzee gives an aggressive display of behavior or indicates being hurt or offended, the other chimpanzees always come to that chimpanzee's support by making aggressive barks at the human. Again this is regardless of the individual relationship with the human. Their first duty is to the other chimpanzees.

39. Moral behavior can be demonstrated in the chimpanzee's use of the sign SORRY, which they acquired while reared as deaf human children. If they did something aggressive to a human, the chimpanzees often responded with SORRY. These apologies go with morals and a sense of right and wrong. When the Central Washington University facility closed, the two remaining sign-language-using chimpanzees in the group, Tatu and Loulis, moved to a sanctuary with 11 other chimpanzees, none of whom knew sign language. As a territorial species, Tatu and Loulis's presence sometimes elicited aggression from the other chimpanzees in the first months. Tatu often signed SORRY to the other chimpanzees in response to their aggression. Tatu also signed SORRY on behalf of other chimpanzees (Jensvold & Dombrowsky, 2019). The chimpanzees even signed in apology to humans; for example:

2/16/14 Tatu sits up in the tunnel waiting for the door to be opened so she can go into Room 1. Dawna had tried to open the door previously but Tatu jumped up at her and scratched her. Dawna is going to try again but Tatu is still sitting right there. Tatu looks toward Dawna and signs SORRY and points to her hand where she scratched Dawna and signs HURT. Tatu signs SORRY again. Dawna tries again to open the door and Tatu lets her, no problem.

E. Ability to plan and remember

40. Chimpanzees and other great apes demonstrate planning. Wild chimpanzees carry stone tools long distances to areas where nuts are present and crack the nuts with the stones (Boesch & Boesch, 1984). Chimpanzees are able to prepare themselves for future actions (e.g., tool use) (Beran et al., 1999, 2004, 2012; Beran and Evans, 2009, 2012; Osvath and

Osvath, 2008), and thus demonstrate a capacity for episodic memory (which involves the ability to learn, store, and retrieve information about unique personal experiences that occur in daily life (Dickerson and Eichenbaum, 2010). They can remember highly specific contextual elements, that is, the “what, where and when” of events when hours, weeks and even years have passed (Martin-Ordas et al., 2010; 2013).

41. In 2009, an observational study was done of one male chimpanzee in a zoo who prepared for future stone-throwing at visitors (Osvath, 2009). The key findings in this study were that the chimpanzee collected and stockpiled stones at strategic places in his compound when he appeared completely calm, but when he used them later he was in an agitated state. The ability to plan for events where you are in a different psychological state from the current situation is regarded as a strong sign of an episodic system (e.g., Suddendorf and Corballis, 2007). In 2012, a follow-up study was conducted in order to get a more detailed understanding of the planning behavior of this chimpanzee (Osvath and Karvonen, 2012). This follow-up study found very complex behaviors not documented before. The chimpanzee engaged in deception for the future by constructing hides for his stone caches and by inhibiting his aggressive displays (which are tell-tale signs of upcoming throws). The key finding was that chimpanzees are not only able to prepare for an upcoming event, but are also able to mentally construct a new situation which will alter the future (in this case the behaviors of human zoo visitors).
42. Part of being an autonomous individual is self-control. Chimpanzees, like humans, can delay gratification for a future reward; they possess a high level of self-control under many circumstances (Osvath and Osvath, 2008). Self-control depends upon the episodic system. Basically, the perceptual simulations made possible by episodic memory function

as a motivational “brake” on current drives in favor of delayed rewards (Boyer, 2008). The sensory simulation evokes a motivation related to the simulated episode. This motivation competes with whatever other motivations were prior to the simulation. This brings the future into the present: for example, a choice between immediate and delayed satisfaction becomes a choice between two current motivations. It is a trick of the brain allowing for delay of gratification only available to humans and nonhumans with a sufficiently sophisticated sense of self and autobiographical memory.

43. In a series of experiments, it was demonstrated that chimpanzees can disregard an immediate small piece of food in favor of a tool that would allow them to get a larger piece of food in the future. Chimpanzees can even select a tool which they had never seen before, but which function they could guess, and use it in the future on a reward apparatus. This ability to perceive the function of a novel tool in the future would be impossible without mentally representing the details of the future event (Osvath and Osvath, 2008). Researchers have also found that chimpanzees plan for future exchanges with humans (Osvath and Persson, 2013). Finally, chimpanzees will even use self-distraction (playing with toys) to cope with the impulse of grabbing immediate candies instead of waiting for more (Evans and Beran, 2007). In summary, chimpanzees can delay a strong current drive for a better future reward, generalize a novel tool for future use, select objects for a much-delayed future task, and do all of this while keeping in mind several different elements of a situation.
44. In addition to the behavioral studies there are also neurobiological findings showing that the chimpanzee brain is activated in the same areas and networks as the human brain during activities associated with planning and episodic memory (Rilling et al, 2007).

These findings support the behavioral and cognitive evidence for an autobiographical self in both humans and chimpanzees.

45. When taken together, these studies, as well as other reports on chimpanzee behavior in the wild, support the idea that chimpanzees possess an episodic system similar to humans. Chimpanzees have a self-concept and are aware of their past and see a future ahead of them. This also means that they can re-experience past pains and pleasures as well as anticipate such emotions. This in turn implies that they likely can, just as humans, be in pain over an anticipated future event that has yet to occur. But, chimpanzees and other great apes have a concept of their personal past and future and therefore suffer the pain of not being able to fulfill one's goals or move around as one wants; like humans they might experience the pain of anticipating a never-ending situation.

F. Self-recognition and empathy

46. The first experimental demonstration of mirror-mediated self-recognition – widely accepted as a marker of cognitive self-awareness – in a nonhuman species was done with chimpanzees (Gallup, 1970). To be able to recognize oneself in a reflection requires holding a mental representation of what one looks like from another visual perspective. Although claims of mirror self-recognition have been made for individuals of a few non-great ape species, the evidence is indisputably strongest for chimpanzees and the other great apes (Anderson & Gallup, 2011; Gallup, Anderson & Platek, 2011). The ontogenetic emergence of self-recognition in chimpanzees is similar to that in humans (Lin, Bard & Anderson, 1992). As in humans, the capacity for self-recognition in adult chimpanzees is highly stable across time, with some decline in old age (de Veer, Gallup, Theall, van den Bos & Povinelli, 2003).

47. The capacity for self-recognition has been linked to empathic abilities (Gallup, 1982).

Empathy is defined as identifying with and understanding another's situation, feelings and motives. Evidence indicates that chimpanzees are capable of highly developed empathic abilities, compared to other species of nonhuman primates (de Waal, 1990). Washoe is one of the signing chimpanzees that I know. Washoe had experienced the death of two infants in her life. Years later once of her human caregivers experienced a miscarriage. When she returned to work, she explained to Washoe that her baby had died. Washoe signed CRY to her demonstrating empathy (Fouts, & Mills 1997)

48. In the wild and in captivity, chimpanzees engage in sophisticated forms of tactical deception that require attributing mental states and motives to others (de Waal, 1992; Hare, Call & Tomasello, 2006; Hirata, 2006). They also surpass other species in terms of concern for others' welfare. This is shown when individuals console an unrelated victim of aggression by a third-party (de Waal & Aureli, 1996). Concern for others is also seen in risky situations, for example, when crossing a road stronger and more capable adult males of a chimpanzee group will investigate the situation before more vulnerable group-members cross and they also take up positions at the front and rear of the procession (Hockings, Anderson & Matsuzawa, 2006). Knowledge of one's own and others' capabilities is probably also at the origin of some instances of division of labor. This includes sex differences in cooperative hunting for live prey, and crop-raiding; these activities often lead to individuals in possession of food sharing it with those who do not (Teleki, 1973; Goodall, 1986; Hockings, Humle, Anderson, Biro, Sousa, Ohashi, & Matsuzawa, 2007).

49. One of the consequences of self-awareness may be awareness of death (Gallup, 1979).

Recent observations of the responses of a group of chimpanzees to a dying, elderly member of the group provide further evidence of compassion, bereavement-induced depression, and an understanding of the distinction between living and non-living. The group responded with special attention and pre-death care of an ailing female, male aggression towards the corpse, close inspection and testing for signs of life at the moment of death, all-night attendance by the deceased's adult daughter, cleaning the corpse, and, later, avoidance of the area where death occurred. These behaviors recall human responses to the death of a close relative (Anderson, Gillies & Lock, 2010) and are consistent with several other reports of the reactions of wild and captive chimpanzees to the death of a group member (Boesch, 2012), strongly suggesting that chimpanzees, like humans, feel grief and compassion when dealing with mortality.

II. Chimpanzees have complex physical, psychological, and social needs

50. Because chimpanzees are physically and psychologically complex, their care in captivity requires a sound knowledge of the species and standards of care. To understand what captive chimpanzees need in terms of care, I would like to point out some aspects of the nature of chimpanzees and what that means for husbandry and care practices in captivity.

A. The harms of social deprivation

51. Chimpanzees are likely to suffer psychological and physical harm if they are deprived of adequate opportunities to engage in social and tactile behaviors such as grooming and playing with members of their own species. Early research into the effects of social deprivation revealed that chimpanzees raised in isolation show severe deficits and abnormalities, such as increases in a variety of abnormal behaviors including rocking,

swaying, thumb-sucking, eye-poking, biting, over-grooming, coprophagy (ingestion of feces), and head banging (Davenport, Menzel, & Rogers, 1966; Davenport & Rogers, 1968, Menzel, Davenport, & Rogers, 1970; Davenport, Rogers, & Rumbaugh, 1973; Menzel, Davenport & Rogers, 1963).

52. Davenport (1979) found that chimpanzees reared in environmentally deprived conditions exhibited many behavioral abnormalities and problems not exhibited by chimpanzees reared by their mothers. The deprived chimpanzees typically developed stereotypies (abnormal, repetitive, seemingly meaningless behaviors) such as rocking and head banging. Chimpanzees who were reared in a deprived environment for 2-2.5 years had deficits that lasted a lifetime. Among other things, several years after the deprivation conditions had ended, some chimpanzees were still showing intellectual deficits, such as abnormal maternal behavior, in the case of females, or abnormal or diminished sexual behavior, in the case of males. “The persistence of cognitive deficits in the restricted-reared chimpanzees, even after 12 years of environmental enrichment, prolonged testing, and group maintenance, is interpreted to mean that deficits so acquired are not readily corrected” (Davenport, 1979, p. 351).

53. In another study, chimpanzees pulled from their biological mothers and raised by humans in a laboratory nursery (“nursery-reared”) showed more rocking and self-sucking than mother-reared chimpanzees. (Nash, Fritz, Alford & Brent, 1999). In yet another study, laboratory chimpanzees reared apart from their mothers exhibited poor social skills, fear of novelty, and difficulty coping (Llorente et al., 2015; Kalcher-Sommersguter, Preuschoft, Crailsheim & Franz, 2011). Isolation is even more deleterious to the well-being of chimpanzees than living in a small enclosure, although both of these are

problematic and impair the development and expression of normal (species-typical) behaviors (Fouts, Abshire, Bodamer, & Fouts, 1989). Even orphaned chimpanzees living in sanctuaries engaged in more aggressive play than chimpanzees reared with mothers (Van Leeuwen, Mulenga, & Chidester, 2014).

54. In summary, the effects of early adverse rearing histories on primates and unenriched environments as adults, result in stereotypical and abnormal behaviors, aberrant self-directed behaviors (such as self-manipulation, self-scratching, self-grasping, and self-injurious behavior), increased aggression, decreased exploration, low dominance rank, and reduced or abnormal sexual behaviors (Zhang, 2017; Pascual et al. 2023).
55. The harm caused by inadequate social groupings also is reflected in physical changes in a chimpanzee's brain. A recent study of the brains of mother-reared versus nursery-reared chimpanzees showed that mother-reared chimpanzees have greater global white-to-grey matter volume, more cortical folding, and thinner grey matter within the cortical folds than nursery-reared chimpanzees (Bogart et al., 2013). In other words, the brains were more developed in mother-reared chimpanzees, meaning that early rearing environment has an impact on the brain structure as well as producing abnormal behaviors. This finding mirrors earlier studies reporting that human children who have experienced neglect and adverse rearing conditions also have brain abnormalities (De Bellis et al., 1999).
56. When chimpanzees are not provided the ability to live with adequate social groups and social stimulation during their formative years, they suffer from psychological harm reflected in the exhibition of abnormal behavior and self-injurious behavior, and are at

risk of becoming less likely to be able to form appropriate social relationships in the future (Zhang, 2017; Kalcher Franz, Crailsheim & Preuschoft, 2008).

B. Environmental enrichment

57. As autonomous beings, free-living chimpanzees lead a cognitively and socially rich stimulating life that requires them to engage in constant problem-solving, tool making, and tool use (Sanz & Morgan; Whiten et al., 1999). They encounter complicated social dynamics and challenges as they navigate the social exchanges within their group (Sanford 2018). Therefore, a lack of stimulation in the social realm and object/physical realm presents a risk of harm to captive chimpanzees.

58. In the wild, chimpanzees use hundreds of tools, including: sticks to dip into termite mounds and into honey bee nests (using a long one for stinging bees and a short one for stingless bees); large sticks to punch holes in the ground; leaves for sponging up water, wiping faces and rears, protection for feet from thorny walking surfaces; and stones for hammers and anvils in nut cracking (Whiten et al; Boesch 2012; McGrew 1992). They use tools in sets and combination (Sanz & Morgan). When given the opportunity, chimpanzees in captivity also use a myriad of tools—such as screwdrivers, paintbrushes, hammers, forks, spoons, crayons, clothing, hairbrushes, toothbrushes, and iPads (Gardner, et al., 1989; Temerline, 1975)—all of which I have observed myself. Chimpanzees use the tools of their community, thus home-reared chimpanzees acquire skills more common in Western households, rather than the skills of free-living chimpanzees (Boesch 2012).

59. In captive chimpanzees, a program of environmental enrichment is critical to provide essential cognitive and physical stimulation, opportunities for psychological

development, and opportunities to conduct species-typical behaviors. Environmental enrichment is the provision of a stimulating physical environment, including enclosures, permanent structures within enclosures, and temporary structures such as hammocks and swings; a social environment, meaning social housing and friendly relationships with caregivers; activities such as painting and grooming; food stimulation including a varied diet, forages, and food puzzles; and objects including toys, clothing, paper, magazines, hairbrushes, mirrors, and puzzles. These programs are meant to stimulate the natural behaviors of tool use, object manipulation, problem solving, and foraging needs, to name a few (Bloomsmith et al., 1991; Celli et al., 2003; Lutz & Novak, 2005; Fouts, Abshire et al., 1989). They also fill time and fight boredom (Fouts, Abshire et al., 1989; Paquette & Prescott, 1988) and provide an opportunity to exercise autonomy.

60. To serve their intended purpose, programs of enrichment must include a large number of objects and opportunities, and they must be varied. Chimpanzees should receive 10-20 different objects daily. My research shows chimpanzees use objects less often after only 6 hours of exposure, and they use objects during the day and night. Thus, they should receive appropriate new objects at least twice daily with the variety, diversity, and volume as outlined above (Carner et al., 2013; Schultz et al.; Hartel et al.; Bowman et al.; Jensvold et al. 2001; 2002; 2003; 2004; Waters et al.).
61. Decades of research has demonstrated the effect of enriched versus deprived environments on the brains of many different taxa ranging from fish, dogs, cats, crayfish, monkeys and human. This is reflected in cortical thickness, number of cell types, number of dendrite spines on nerve cells, and synapse efficiency (Jacobs et al. 2021). This

research points to the profound impact of the quality of the environment on the nervous system and the reason for environmental enrichment.

62. Other research demonstrates that chimpanzees' psychological growth and ability will become depressed when they are reared in less stimulating environments (Shaw, Scheel & Gardner, 2017). Data from humans confirms that children raised in deprived environments (for example, in orphanages in some countries) lag behind their peers in cognitive skills who are raised in appropriate social conditions, and they may never be able to make up such deficits if these inappropriate conditions persist for too long (Merz & McCall, 2010; Rutter et al., 2007; Zeanah et al., 2009). Thus inappropriate or deprived enrichment can be harmful to chimpanzees.

C. Diet

63. While diet is part of an enrichment program, it also is a separate consideration. Chimpanzees in the wild eat hundreds of different foods such as vegetation, fruits, nuts, insects, reptiles, and mammals. Their diets vary seasonally based on availability of the highest quality foods in that area. Chimpanzees make and use many types of tools to acquire foods, such as sticks to fish for termites in mounds or alga in still ponds, and rocks to crack nuts. There is variation in the ways different communities of chimpanzees use tools, acquire foods, and which foods they choose to eat. Additionally, chimpanzees hunt animals for their meat, with community-level variations in this behavior; some communities hunt collaboratively and others individually. In captivity, chimpanzees must receive a varied and diverse diet with a variety of ingredients. Specific nutritional requirements include high fiber, fruit, vegetables, and protein (GFAS 2022, AZA 2010). Foraging for food is a large part of how wild chimpanzees spend their days, exercising

their autonomy. In captivity food must be presented in ways to promote foraging which can create enriching activities. Cardiac disease and diabetes are concerns in chimpanzee health and poorly planned diets can contribute to these problems.

64. Diets for chimpanzees in zoos and laboratories include primarily monkey chow with some fresh fruit and vegetables. Chow is a highly processed kibble-type food that contains all the nutrients chimpanzees need. At the same time, it is monotonous and requires no processing skills. This should only be a part of a diet that is rich in fresh fruits, vegetables, and forage (GFAS, 2022). Environmental enrichment programs that include food puzzles and/or scatter browse are meant to emulate the challenges of food procurement in the wild, although they seldom come close. Sanctuaries endeavor to provide a variety of foods with diverse ingredients, preparation style, and presentation. Additionally, sanctuaries will adjust to the needs of individuals. For example, newly arrived chimpanzees will receive familiar foods which can ease the transition to the new facility rather than being forced to adapt to the existing diet. A proper captive chimpanzee diet requires planning, preparation, time, and funding. Additionally, it should be documented in an organization's care protocols and daily records.

D. Chimpanzees require large, complex enclosures and structures

65. Chimpanzees are an arboreal species, meaning they live off the ground and are natural climbers. They live in the forest and walk on the ground, but spend more time in the trees. They build nests in the trees at night and sometimes during the day (Goodall, 1986). Research on captive chimpanzees shows they prefer to spend time off the ground in captivity (Jensvold, Sanz, Fouts & Fouts, 2001; Goff, Howell, Fritz & Nankivell, 1994; Traylor-Holzer & Fritz, 1985; Tecot, et al.; Ross, Calcutt, Schapiro & Hau, 2011).

This means they need adequate structures and surfaces to allow for that species-typical behavior. When such furnishings and conditions are lacking, the captive chimpanzee will likely suffer physiological harm.

66. In order to provide opportunities for climbing in captivity, enclosures need to include various types of structures, hoses, ropes, and hammocks that create places and pathways above the ground. There should be sufficient and adequate resting ledges and platforms to allow chimpanzees to comfortably recline and sit in these places. There also should be climbable surfaces, such as sturdy fencing, and furniture or catwalks so they can access height by clinging, climbing, and hanging (Jensvold et al., 2001; Sanz et al., 1999; GFAS 2022) GFAS recommends heights of 20 ft. for outdoor enclosures if they have a closed top, and 15 ft for indoor. Chimpanzees spend 10-20% of their time traveling, so they need adequate opportunities to move around both on and off the ground (Doran & Hunt, 1994). All the chimpanzees I have known build night and day nests in tunnels or resting platforms off the ground. That is where they prefer to be and this allows for adequate rest and restful sleep. Sleep is important for good physiological and mental health.
67. Enclosure size requirements are varied. While the Animal Welfare Act mandates 25 ft², the Institute of Medicine report recommended 1000 ft² but NIH revised that to 250 ft² (NIH, 2014). Even the largest chimpanzee enclosures are a small fraction of the size of chimpanzee home ranges (Ross & Shender, 2016). GFAS sanctuaries have a variety of enclosures usually larger than zoos. (Fultz et al., 2023). Some include multi-acre outdoor enclosures (e.g., Chimp Haven, Chimpanzee Sanctuary Northwest, Project Chimps) while other have features such as elevated chutes (e.g., Center for Great Apes, Fauna Foundation) and others have islands (e.g., Save the Chimps, Fauna Foundation). When a

group of chimpanzees in a sanctuary moved from a 27.87 m² (200 sq. ft.) to a 587m² (7000 sq. ft.) facility, travel behavior nearly doubled (Jensvold et al., 2001). Additionally, two of the chimpanzees gained notable strength and agility one year after the move (Jensvold & Fouts, 1994). This points to the significance of a large and varied space for chimpanzees and the relationship of space to exercise.

68. Based on photographs and videos of DFZ (see here: <https://rb.gy/57pbv>) and aerial photographs of the zoo on Google Earth (see here: <https://shorturl.at/wEQ39>), I observed one outdoor enclosure with a woven wire top for chimpanzees. There is no shelter on the top of the enclosure, so rain and snow can enter the enclosure. There is no indication from the photographs and videos I've observed that there is sheltered outdoor space. I estimate the outdoor enclosure to be about 25 x 25 ft. The building beside it is about the same and that is attached to a smaller building. During winter months it is likely that the outdoor enclosure is filled with snow. The average annual snowfall in Wallace, MI is 47 inches per year. The ground is frozen all winter. This would mean the outdoor enclosure would be largely unusable for chimpanzees. Keeping the chimpanzees inside all winter would be physically and psychologically harmful. They need access to fresh air and sunshine all year.

69. Baker and Ross (1998) compared the behavior of pairs and trios of chimpanzees housed exclusively indoors, or with access to the outdoors, and found that those groups with access to outdoors showed significantly less abnormal behavior, less yawning (a tension-related behavior), and more self-grooming. These results suggest that outdoor access has a major impact on chimpanzee behavior.

70. Tatu is a chimpanzee who uses American Sign Language. She has asked me many times, even on very cold days, to go outside. When she's granted that access, she goes out even if it is a short time. The point is that she goes out for short times. This indicates that all chimpanzees would like the opportunity to go outside throughout the year in any temperature. The sanctuary I work with now, the Fauna Foundation (GFAS accredited), is located in a northern climate; it is near Montreal Canada. We provide a variety of sheltered outdoor spaces. This includes elevated tunnels with heated mats on the floor and clear tarps. Two other sanctuaries in Washington State, i.e., a northern climate, also offer sheltered outdoor spaces. There does not appear to be any protected outdoor space at DFZ. This would mean that if the chimpanzees are allowed outside, they would be exposed to adverse conditions. In extreme cold and snow, chimpanzees can easily develop frostbite or hypothermia. So it's either that or they are stuck inside for many months.

71. I visited a roadside zoo in Quebec and it has warehouses like DFZ. They housed mixed species animals, including chimpanzees, inside all winter. The person who took the videos and photographs of DFZ referenced above indicated to me that alligators or crocodiles were housed in the same building with the "monkeys" which would be the building attached to the outdoor enclosure. (I am happy to say the zoo in Quebec realized the problem with their chimpanzee situation and sent them to retirement at Fauna Foundation).

F. Captive chimpanzees require trained caregivers

72. Caregivers play a crucial role in captive chimpanzee care. They are intimately involved with each animal since they provide all aspects of care. Caregivers provide healing

through positive relationships and establishing a level of predictability and trust with each individual. Evidence shows it is very important that there be positive interactions between chimpanzees and their caregivers (Baker, 2004; Bloomsmith, et al., 1999; Jensvold, 2008). Caregivers should have a deep knowledge of the species and know each individual's history, personality, preferences, and dislikes. By carefully monitoring the animals each day they can address or adjust for individual needs. Chimpanzee caregivers are woven into the fabric of the group's social network (Funkhouse et al., 2018).

73. A key characteristic of the caregiver-resident relationship in sanctuaries is a lack of human domination, a recognition of the offset of control, and an emphasis on providing the animals with opportunities to exert control as already described (in other words, opportunities to act autonomously). In addition, caregivers should be completely focused on the animals in their care, without the distractions associated with exhibition and ambassador programs of zoos (Doyle, Marino, & Jensvold, In press).
74. Captive chimpanzees rely on caregivers for every aspect of their well-being. It is of utmost importance that caregivers receive specific training in chimpanzee behavior and husbandry to provide the quality of care that they require. As social, vulnerable, and dependent beings in captivity, they are keenly aware of their relationship with caregivers. I firmly believe and advocate that through knowledgeable and compassionate caregivers, we can improve quality of life (Jensvold, 2019; Jensvold, 2008; Fouts, Abshire, Bodamer, & Fouts, 1989). My research shows that when caregivers receive training in chimpanzee behaviors and subsequently use those behaviors in interactions with chimpanzees, the interactions are longer and friendlier, which are indicators of rapport (Jensvold, 2008). This is supported by other research that shows that simply using

chimpanzee vocalizations increased cooperation with husbandry routines (Case, Yanagi, Loeser & Fultz, 2015). In the protocols at the sanctuaries that I've led, CHCI and Fauna Foundation, caregivers spend long periods of time with chimpanzees engaging in a variety of activities while using species-typical behaviors like playing games such as chase and tickle (the chimpanzee is inside the enclosure and the caregiver is outside using protected contact and shows a chimpanzee playface), grooming (the caregiver lip-smacks and uses other chimpanzee grooming behaviors), looking through a catalogue together, or the caregiver food-grunting while the chimpanzee enjoys a meal. I made presentations on this topic at sanctuaries, zoos and professional conferences.

75. When appropriate training and knowledge are lacking, caregivers are unable to read and understand the chimpanzees' needs. This results in a failure to recognize problems that— if undetected and unaddressed—are likely to lead to psychological injuries, physical illnesses, and even death. It also blocks an avenue to promote a positive social relationship between chimpanzees and caregivers.

G. Breeding

76. Female chimpanzees have a monthly menstrual cycle. It is much like that of humans. The difference is that chimpanzee females have sexual skin around their genitals. This becomes enlarged when the female is ovulating creating a visual signal to male chimpanzees that she is sexually receptive. Accredited sanctuaries do not breed chimpanzees and they have an active birth control plan in place. This includes oral contraception in females, or hormonal implants. That contraception stops the cycle so the swelling does not occur. In the videos I observed of the DFZ, two females had sexual

swellings indicating they were receptive. There also was a male in the enclosure. This would indicate to me the potential for breeding.

77. Zoos often remove unruly adolescent males, sending them to other zoos (Ross et al., 2009). This disruption is completely unnatural. Zoos may also transfer chimpanzees to other zoos for breeding purposes. Transfer and breeding are forbidden in GFAS-accredited sanctuaries and there must be contraception plans.

III. GFAS-accredited sanctuaries

78. GFAS stipulates standards of care for non-human animals in GFAS-accredited sanctuaries and has a manual specific to great ape care (GFAS, 2022). GFAS has requirements and standards for enclosure size and design, diet, environmental enrichment, veterinary care, daily husbandry such as enclosure cleaning and sanitation, social housing, caregiver training, qualifications, and care protocols and on-site inspections. It requires annual updates and has a renewal process every 3 years that includes an on-site inspection. Directly below, I detail the GFAS housing and enrichment standards.

- a) GFAS Housing: GFAS requires that great apes, which includes chimpanzees, be housed in an environment that allows them to move about freely and rapidly and exercise choice in location. Apes must have as much outdoor access as possible whatever the climate (GFAS, 2022). Outdoor enclosures must be a minimum of 5,000 sq. ft for 5 apes, with 250 sq. ft. for each additional ape. Outdoor enclosures with a top must be a minimum of 20 ft. For indoor enclosures, GFAS requires at least two rooms per group. Minimum room size is 200 sq. ft. per pair of apes with an additional 50 sq. ft. per ape

(GFAS 2022, p. 9). The minimum height is 15 ft. indoors. There must be furniture or walkways to access the vertical space. The GFAS standards have details on the design of the enclosures. Enclosures must have appropriate complexity with combinations of visual barriers, climbing structures, resting platforms, handholds, ropes, fire hoses, and cargo nets. The design must allow access for all individuals, including elderly apes and those with physical limitations. Indoor enclosures must have spaces to sleep above the ground.

- b) GFAS Enrichment: GFAS provides detailed information on a standard enrichment program to provide for behavioral and psychological well-being and promote species-appropriate behaviors. GFAS requires a complete environmental enrichment program in a written protocol, which must include different categories of enrichment: structural enrichment such as benches, climbing structures, ropes and hammocks; object enrichment such as straw blankets, paper cardboard, mirrors, dolls, and toys; and food enrichment such as treat dipping and raisin tubes. Another enrichment category is social enrichment, which entails affiliative interactions with caregivers when appropriate. The enrichment plan must include novelty—which means there must be complexity, variability, and many objects. GFAS stipulates consideration for the individual’s history in the plan for objects, diet, bedding, and social enrichment. Thus an environmental enrichment program takes time, personnel hours, planning, and funding to adequately stimulate chimpanzees. A plastic toy or blanket won’t do.

79. GFAS sanctuaries must maintain daily records including notes on meals. The meal plan should include ways to ensure each individual chimpanzee, including subordinates, receives their meals, and caregivers must watch to ensure this is happening.
80. GFAS considers physical well-being in its standards. Chimpanzees should be able to enjoy lives as close as possible to their wild counterparts and have opportunities to engage in species-typical behaviors. This requires regular assessments to ensure that chimpanzees have an appropriate social environment. Social housing for chimpanzees should allow for fission-fusion groupings, which is when an individual is able to split off from a larger group and spend time with subgroups. This enables chimpanzees to have choice and autonomy in their social groups.
81. In GFAS-accredited sanctuaries, the culture of care stands apart from that of other traditional wildlife facilities, even if there is overlap in mission objectives such as education and conservation. The culture in authentic sanctuaries is distinctive because it is not designed to appease consumers, promote public confidence, or convince the public of the need to keep wild animals captive. The practice arises from an ethic of service to each animal as an individual with a certain personal history, and to meeting their needs as best as possible in captivity. From that ethic comes certain practices, including the “resident first” philosophy and practice (as opposed to consideration of other issues such as visitor experiences), no breeding, and no impositions on well-being and autonomy (that is, no performances, demonstrations, or close contact with the public). These principles and practices of sanctuaries are meant to be reparative and healing (Doyle, Marino, & Jensvold In press).

82. One of the ways that sanctuaries better serve the chimpanzees in their care is by providing them with a home for the duration of their lives. GFAS-accredited sanctuaries never trade animals with other facilities, transfer them for breeding, or relocate animals to free up space. While some zoos may provide cradle-to-grave care for certain individuals, many captive animals will be traded and relocated during their lives. According to the 2012 SSP Chimpanzee Studbook, which lists the transfer history of chimpanzees at each AZA-accredited zoo, 50% of the population at that time had been transferred at least one time. In chimpanzees, relocation is associated with higher levels of hair cortisol (Yamanashi et al., 2016) and other markers of stress (Schapiro et al., 2011).
83. At the Fauna Foundation, where I work, the daily life of its chimpanzee residents is full of options and activities. Chimpanzees are offered enrichment, meals, and snack choices throughout the day. Breakfast maybe fruit and farina. Later in the morning when caregivers clean enclosures, the chimpanzees have the option to move to another location and the timing and sequence of the cleaning routine is determined by the chimpanzees. If a chimpanzee wants to remain in a room that needs to be cleaned, they can. The room will be cleaned later when the chimpanzee wants to leave. At points throughout the day, caregivers may take a break to play a game of chase or a quiet grooming session with one of the chimpanzees—caregivers are friends with the chimpanzees, as well as “servants” who fill the chimpanzees’ requests for activities, objects, and enrichment. The chimpanzees have access to caregivers for most of the day. This gives the chimpanzees more control and autonomy than those confined in zoos per se where caregivers leave to care for other animals.

84. Additionally, caregivers at the Fauna Foundation will have a plan for the day to stimulate and encourage diversity in activities and avoid the routinizing effects that can occur in zoo institutions. A forage or food puzzle is offered each day. Morning snack options may include a muffin and tea snack mid-morning. After cleaning the chimpanzees have access to an assortment of fresh vegetables. They can choose and take what they want and when they want from a shelf. Lunch is served individually on plates and bowls. This day it may be lentil soup. Another activity is offered in the afternoon such as blowing bubbles, watching videos, a manicure, painting, or coloring. The chimpanzees often entertain each other with vigorous play or intense grooming. Because having the company of other chimpanzees each other is essential to their well-being, the chimpanzees live in groups. Additionally, Fauna offers fission-fusion groupings so certain chimpanzees may visit with compatible neighboring chimpanzees who are outside of their usual group—these groupings are wholly determined by the chimpanzees’ desires. For instance, Tatu uses sign language to tell caregivers who she would like to visit and for how long. The evening routine includes a supper bag made individually for chimpanzees’ preferences and blankets for nesting.

IV. USDA Records of DFZ

85. The USDA records of DFZ from 2013-2023 are revealing (see records here: <https://bit.ly/3sy6cH2>). These records include inspection reports and responses to many animal welfare complaints. I find it shocking that, in response to those complaints, USDA inspectors only found “no non-compliant items” with respect to chimpanzees.
86. In 2013, there was a single 3-year-old chimpanzee named Louie at DFZ, and he had been at the zoo since he was 6 weeks old. Louie is 13 years old at the time of this Affidavit and

has essentially lived alone more than half his life, if not his entire life. What Louie has endured is highly detrimental to his psychological well-being, mental health, growth, and development.

87. The life cycle of a chimpanzee has some hallmarks that resonate with human development. Chimpanzee gestation is 34-35 weeks; human gestation is 38 weeks (Saki et al 2012). The infant chimpanzee is quite helpless and completely reliant on the mother. Developmental milestones such as rolling over, sitting, and pulling to a stand are remarkably similar to those in humans. Nursing extends for 3-5 years of age in chimpanzees and for years in some traditional human cultures (Fouts et al 2005; Kennedy, 2005). Chimpanzees reach puberty at 10-12 years of age when females begin a 32-day monthly menstrual cycle. Chimpanzees can live 50-60 years of age. The cognitive development of chimpanzees is much like human children, and the need for social interactions, as I've pointed out earlier, is essential for normal development.
88. The USDA inspectors seemed satisfied that Louie was placed in enclosures beside other nonhuman primates. For example, in 2016, Louis lived in a cage beside a monkey and they would pass a ball between them, which is absolutely inadequate for meeting the complex needs of chimpanzees. USDA requires the promotion of species-typical behaviors, but monkeys and chimpanzees do not share the same behaviors. Chimpanzees are more closely related to humans than to any kind of monkey.
89. The DFZ owners took Louie out of his enclosure and brought him into their home. While unethical and inappropriate, being housed with humans is sustainable until a chimpanzee approaches puberty when their strength and emotional lives often make it unsafe and at times unmanageable. We can see in the 2018 complaint report that Louie (then 8 years

old) has a room in the owner's home and at times takes trips to be adjacent to other chimpanzees. We don't know how he is moving around the zoo, which should have been a cause for concern with the inspector. Most importantly, Louie's housing arrangement constitutes solitary housing, which is severely harmful.

90. As stated by my late colleague Dr. Steve Ross, former head of the Chimpanzee Species Survival plan and who profusely published on chimpanzee behavior and well-being: "Providing captive chimpanzees with a rich, dynamic, and stable social environment is likely the single most important element in promoting chimpanzee well-being" (p. 57 Ross, 2014). A chimpanzee held alone in an enclosure is in solitary housing, even if there is an adjacent enclosure with another chimpanzee. The USDA inspector in 2018 states on p. 288, "[t]here were no chimps observed to be confined in isolation," yet admits "Louie is still singularly housed[.]" Over a period of at least 8 years, Louie has not been provided with an adequate social environment.

91. With a lifetime of solitary housing Louie will not know how to be a normal chimpanzee. Former pet chimpanzees like Louie are the most difficult to socialize with other chimpanzees. As adults they show higher levels of hair cortisol, which is an indicator of stress. (Jacobson et al., 2017). This fact, coupled with the need of chimpanzees for social stimulation, shows that Louie has been severely psychologically harmed by his life at DFZ.

92. The USDA records also indicate that the chimpanzee Tommy has likely been living alone as well. We know from reports that upon his arrival in 2015, DFZ owners were unable to successfully introduce Tommy to Louie. In 2018, the most detailed report indicates that

Tommy was held separately from other chimpanzees in an enclosure connected to a tunnel. This too would cause psychological harm to Tommy.

93. USDA records indicate that the number of chimpanzees at DFZ has fluctuated from 2 (Tommy and Louie) in 2016, 5 in 2017, 8 in 2018, and 7 in 2022. The 1/10/18 inspection report (p. 281) notes that the DFZ owners were hand-raising an infant female chimpanzee, who had been removed from her mother because the mother was not taking adequate care of her. This raising of a chimpanzee without proper social housing, once again, is highly detrimental to chimpanzee well-being. The drop in the number of chimps in 2022 (from 8 to 7) could represent the selling of the baby chimpanzee or perhaps a death. If these chimpanzees were at a GFAS-accredited sanctuary, deaths would be reported as well as any other reason for a decrease in chimpanzees. Transfers would be highly unlikely as the mission of GFAS sanctuaries is to provide permanent sanctuary.
94. In the 2018 inspection report (p. 282), the inspector states that a metal mesh on the sides of the enclosures made it difficult to observe the chimpanzees, but that their behavior appeared normal—because they were seen engaging in aggressive behaviors, such as bluff displays and throwing water. Chimpanzees are indeed territorial, but aggressive territorial displays are hardly a time to assess behavioral welfare. The inspector reported that Louie, in contrast, was “very well-behaved” (p. 284), probably meaning calm and compliant. But being “very well-behaved,” whatever that means for a chimpanzee (I don’t know), is *not* an indicator of psychological well-being; species-typical behaviors are.
95. The 2018 inspection report also states that stereotypical behavior was not observed, but this does not mean the chimpanzees were not exhibiting such behavior at other times.

Stereotypical behavior, which is a sign of brain damage, often occurs when chimpanzees are calm and otherwise unoccupied. As social critter, chimpanzees are usually pretty busy during an inspection when there are strangers around.

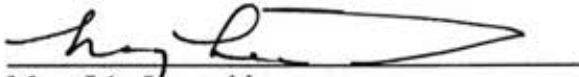
96. The inspection reports confirm that the chimpanzees are housed indoors for the duration of the winter, which, as I indicated earlier, is extremely harmful to their physical and psychological well-being.

V. Conclusion

97. The DFZ has no accreditation displayed on its website and thus would be classified as a roadside zoo. It does not meet the AZA standards for chimpanzee care, let alone the rigorous standards of a GFAS-accredited sanctuary. The only organization providing oversight over the zoo is the USDA, whose standards are minimal and wholly insufficient. Most importantly, unlike GFAS, the USDA does not have specific standards that address the complex needs and autonomy of captive chimpanzees.
98. The DFZ is a completely unacceptable place for chimpanzees. The chimpanzees confined there should be relocated to a GFAS-accredited sanctuary so that they can exercise their autonomy and have their complex needs met.

FURTHER, AFFIANT SAYS NOT.

Dated: Nov 21 2023


Mary Lee Jensvold

Acknowledged before me in Orange County, North Carolina, on 11/21/2023 by Mary Lee Jensvold

Christie J. Whitby
Christie J. Whitby
(Stamp) Notary Public Signature



Notary's Name Christie J. Whitby
Orange County, North Carolina
My Commission expires: 10/30/2025

EXHIBIT A

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EDUCATION

Ph.D., Experimental Psychology, 1996, University of Nevada, Reno, NV

Dissertation: Cross-fostered Chimpanzee Responses to Questions

M.S., Experimental Psychology, 1989, Central Washington University, Ellensburg, WA

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RESEARCH INTEREST

My primary research interests are in language studies and other communication in chimpanzees and other apes, including humans. My studies include American Sign Language in face-to-face interactions, private signing, interspecies signing, sign acquisition, and imaginary play in chimpanzees. Other research includes caregiving practices, zoo visitor effects, and public education about chimpanzees. I am active in improving conditions for captive chimpanzees through empirical research and advocacy.

PROFESSIONAL EXPERIENCE

Associate Director and Primate Communication Scientist, 2014-present

Fauna Foundation, Carignan, Quebec, Canada and Friends of Washoe, Ellensburg, WA USA

Senior Lecturer 2015-present/Associate Professor 2011-2015/Assistant Professor 2008-2011.

Department of Anthropology and Museum Studies, Primate Behavior Program, Central Washington University, Ellensburg, WA.

Director 2011-2013/Associate Director 2008-2011/Assistant Director 2000-2008.

Chimpanzee & Human Communication Institute, Central Washington University, Ellensburg, WA.

Director/Co-PI 2006-2010.

NIH Bridges to Baccalaureate: Yakima Valley Community College to Central Washington University Primate Behavior Program.

Adjunct Faculty/Research Associate/Lecturer 1993-2008.

Primate Behavior and Ecology Program, Anthropology & Psychology Departments, Central Washington University, Ellensburg, WA.

Chimpanzee Behavior Consultant 1998.

Fauna Foundation, Chambly, Quebec, Canada.

Coordinator/Principal Investigator 1996-2006.

Caring for Chimpanzees Earthwatch Program, Chimpanzee & Human Communication Institute, Central Washington University, Ellensburg, WA.

Coordinator 1995-2011.

Summer Apprentice Program, Chimpanzee & Human Communication Institute, Ellensburg, WA.

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Instructor 1993-1997.

Senior Ventures, Central Washington University, Ellensburg, WA.

Instructor 1992-1996.

Elder Hostel, Central Washington University, Ellensburg, WA.

Instructor 1992.

Extended University Program, Central Washington University, Ellensburg, WA.

Animal Technician I 1992-2000.

Chimpanzee & Human Communication Institute, Ellensburg, WA.

Graduate Teaching Assistant 1990-1991.

Department of Psychology, University of Nevada, Reno, NV.

Research Assistant 1990-1991.

Sign Language Studies of Chimpanzees, University of Nevada, Reno, NV.

Biological Technician 1989-1992.

U.S. Forest Service, Cle Elum, WA.

Research Assistant 1986-1992.

Chimpanzee & Human Communication Institute, Ellensburg, WA.

Graduate Teaching Assistant 1986-1989.

Department of Psychology, Central Washington University, Ellensburg, WA.

AFFILIATIONS

Department of Anthropology and Museum Studies, Central Washington University
Primate Behavior & Ecology Program, Central Washington University
Graduate Faculty, Central Washington University
North American Primate Sanctuary Alliance, Steering Committee
METI International, Advisory Council

COURSES TAUGHT

- ANTH 313 Primate Social Behavior
- ANTH 416/Prim 516 Pongid Behavior
- ANTH/COMM 380 Nonverbal Communication
- ANTH 498 Special Topics: Chimpanzee Culture and Communication
- ANTH 496 Advanced Readings in Nonverbal Behavior
- PRIM 220 Introduction to Primate Laboratory Experience
- PRIM 320 Laboratory Work in Primatology
- PRIM 504 Primate Culture and Cognition
- PRIM 505 Primate Interconnections
- PRIM 598 Research Methods in Primatology
- PRIM 596 Statistics for Primatology
- PSY 101 Introduction to Psychology
- PSY 447 Psychology of Adolescence
- PSY 473 Psychology of Thought and Language
- PSY 210 Introduction to Statistics Laboratory

- PSY 301 Experimental Psychology Laboratory

PUBLICATIONS

- Jensvold, M.L., Dombrasusky, K., & Collins, E. (2023). Sign language studies with chimpanzees in sanctuary. *Animals*, 13, 3486. doi.org/10.3390/ani13223486
- Jensvold, M. L. (2022). A Preliminary Assessment of Compassion Fatigue in Chimpanzee Caregivers. *Animals*, 12(24), 3506. https://www.mdpi.com/2001532
- Zager, L. N., & Jensvold, M. L. A. (2021). Signs and docents in zoo visitor education: Using affiliative chimpanzee (*Pan troglodytes*) behaviors. *Animal Behavior and Cognition*, 8(4), 589-600. https://doi.org/10.26451/abc.08.04.10.2021
- Jensvold, M.L. (2020). Conversations with Chimpanzees: What They've Told Me. In D. Rosen (Ed.), *The chimpanzee chronicles* (p. 235-250). Santa Fe, NM: Wild Soul Press.
- Jensvold, M.L. (Ed.) (2019). *Chimpanzee Behavior: Recent Understandings from Captivity and the Forest*. New York: Nova Science Publisher.
- Casti, A., Martinson J., & Jensvold, M.L. (2019). Patterns in Chimpanzee Marking and Drawing. In M.L. Jensvold (Ed.) *Chimpanzee behavior: Recent understandings from captivity and the forest* (p. 95-140). New York: Nova Science Publisher.
- Jensvold, M.L., & Dombrasusky, K. (2019). Sign Language in Chimpanzees Across Environments. In M.L. Jensvold (Ed.) *Chimpanzee behavior: Recent understandings from captivity and the forest* (p. 141-174). New York: Nova Science Publisher.
- Jensvold, M.L. (2019). Relationships Between Caregivers and Chimpanzee Sanctuary Residents. In M.L. Jensvold (Ed.) *Chimpanzee behavior: Recent understandings from captivity and the forest* (p. 175-198). New York: Nova Science Publisher.
- Jensvold, M. L. (2018). Lessons from chimpanzee sign language studies. *Animal Sentience: An Interdisciplinary Journal on Animal Feeling*, 2(20), 17.
- Davis, A. & Jensvold, M.L. (2017). The Effects of Conversational Partner Familiarity in Deaf Signers. In R. Louis (Ed.). *New Research on Sign Language* (pp. 83-104). Nova Science Publishers.
- Jensvold, M.L. (2017). Ape Language. A. Fuentes (Ed.). *International Encyclopedia of Primatology*. Wiley. DOI: 10.1002/9781119179313.wbprim0462
- Mulcahy, J. B., & Jensvold, M. L. (2015). Toward a common goal: Opportunities for collaboration between primate sanctuaries and universities. *American Journal of Primatology*, 77, 55-56.
- Egan, T.E. & Jensvold, M.L. (2015). Pretend Play in Signing Chimpanzees (*Pan troglodytes*). In T. Wagner, (Ed.), *Animal communication and cognition: Principles, evolution, and development* (pp. 57-85). New York: Nova.
- Leeds, C.A. & Jensvold, M.L (2013). The communicative functions of five signing chimpanzees (*Pan troglodytes*). *Pragmatics & Cognition* 21:1, 224-247.
- Jensvold, M.L., Wilding, L., Schulze, S.M. (2014). Signs of Communication in Chimpanzees. In G. Witzany (Ed.), *Biocommunication of animals* (pp. 7-19). Dordrecht: Springer.
- Jensvold, M.L. (2014). Experimental Conversations: Sign Language Studies with Chimpanzees. In N. Gontier & O. Pombo (Eds.), *The evolution of social communication in primates – a multidisciplinary approach* (pp. 63-82). Switzerland: Springer. (peer reviewed)
- Jensvold, M.L., Zager, L., & Bismanovsky, D. (2013). Promoting Nonhuman Animal Welfare: Interactions with Caregivers and Zoo Visitors. *Journal of Applied Animal Welfare Science*, 16, 384-385. [Abstract]
- McCarthy, M., Jensvold, M.L., & Fouts, D.H. (2012). Use of gesture sequences in captive chimpanzee (*Pan troglodytes*) play. *Animal Cognition*, 16(3), 471-481. doi: 10.1007/s10071-012-0587-6
- Leitten, L., Jensvold, M.L., Fouts, R., & Wallin, J. (2012). Contingency in requests of signing chimpanzees (*Pan troglodytes*). *Interaction Studies*, 13, 147-164.

- Campion, T.L., Jensvold, M.L., & Larsen, G. (2011). Use of gesture sequences in free-living chimpanzees (*Pan troglodytes schweinfurthii*) in Gombe National Park, Tanzania. *American Journal of Primatology*, 73(supplement 1), 97.
- Jensvold, M.L., Buckner, J., & Stadtner, G. (2010). Caregiver-chimpanzee interactions with species-specific behaviors. *Interaction Studies. Special Issue of Human-Animal Interactions*, 11, 396-409.
- Jensvold, M.L. (2009). Animals and language. In K. Malmkjaer (Ed.), *Linguistics encyclopedia* (pp. 9-15). Routledge: London.
- Jensvold, M.L. (2008). Chimpanzee (*Pan troglodytes*) responses to caregiver use of chimpanzee behaviors. *Zoo Biology*, 27, 345-359.
- Jensvold, M.L., & Fouts, R.S. (2008). Learning from chimpanzees: Internships at the Chimpanzee & Human Communication Institute. In R. L. Miller, R. F. Rycek, E. Balcetis, S. T. Barney, B. C. Beins, S. R. Burns, R. Smith, & M. E. Ware (Eds.), *Developing, promoting, & sustaining the undergraduate research experience in psychology* (pp. 172-176). Retrieved from the Society for the Teaching of Psychology Web site: <https://www.dropbox.com/s/g8qwj8qm4sx5fqg/ur2008.pdf?dl=0>
- Jensvold, M.L. (2007). Promoting positive interactions between chimpanzees (*Pan troglodytes*) and caregivers. *Laboratory Primate Newsletter*, 46, 1-4.
- Jensvold, M.L., & Gardner, R.A. (2007). Conversational use of sign language by cross-fostered chimpanzees. In F.R. Lewis (Ed.), *Focus on non-verbal communication research* (pp. 237-279). Hauppauge, NY: Nova Science Publishers.
- Jensvold, M.L., & Sheeran, L.S. (2006). Ape cognition. In H. J. Birx (Ed.), *Encyclopedia of anthropology* (pp. 207-212). Thousand Oaks, CA: Sage Publications.
- Jensvold, M.L., Field, A., Cranford, J., Fouts, R.S., & Fouts, D.H. (2005). Incidence of wounding within a group of five signing chimpanzees (*Pan troglodytes*). *Laboratory Primate Newsletter*, 44, 5-7.
- Fouts, R., Jensvold, M.L. & Fouts, D. (2004). Talking chimpanzees. In M. Bekoff (Ed.) *Encyclopedia of animal behavior* (pp. 324-327). Westport, CN: Greenwood Publishing Group.
- Jensvold, M.L., Fouts, R.S., & Fouts, D.H. (2004). Assessment of species typical behaviours in captive chimpanzees. *Animal Welfare*, 13, S245.
- Jaffe, S., Jensvold, M. L., and Fouts, D. (2002) Chimpanzee to Chimpanzee Signed Interactions. In V. Landau (Ed.), *Chimpanzee conference proceedings: The chimpanzee community* (pp. 67-75). Tucson, AZ: ChimpanZoo.
- Fouts, R.S., & Jensvold, M.L.A. (2002). Armchair delusions vs. empirical realities: A neurological model for the continuity of ape and human languaging. In M. Goodman & A.S. Moffat (Eds.), *Probing human origins* (pp. 87-101). American Academy of Arts and Sciences.
- Fouts, R.S. Jensvold, M.L.A., & Fouts, D.H. (2002). Chimpanzee signing: Darwinian realities and Cartesian delusions. In M. Bekoff, C. Allen, & G. Burghardt (Eds.). *The cognitive animal: Empirical and theoretical perspectives in animal cognition* (pp. 285-292). MIT Press.
- Jensvold, M.L.A., Sanz, C.M., Fouts, R.S., & Fouts, D.H. (2001). The effect of enclosure size and complexity on the behaviors of captive chimpanzees (*Pan troglodytes*). *Journal of Applied Animal Welfare Science*, 4, 53-69.
- Sanz, C.M., & Jensvold, M.L.A. (2001). Chimpanzee. In C. Bell (Ed.), *Encyclopedia of the world's zoos* (pp. 248-253). Chicago: Fitzroy Dearborn.
- Jensvold, M.L.A., & Gardner, R.A. (2000). Interactive use of sign language by cross-fostered chimpanzees. *Journal of Comparative Psychology*, 114, 335-346.
- Jensvold, M.L.A. (2000). A review of Apes, Language, and the Human Mind. *Journal of Sociolinguistics*, 4, 277-281.

- Tecot, S., Jensvold, M.L., & Fouts, R. (1999). Evaluation of an enriched physical environment: Space and structure utilization in Pan troglodytes [Abstract]. *American Journal of Physical Anthropology*, 28, 264.
- Bodamer, M.D., Fouts, R.S., Fouts, D.H., & Jensvold, M.L.A. (1994). Private signing in chimpanzees. *Human Evolution*, 9, 281-296.
- Jensvold, M.L.A., & Fouts, R.S. (1994). Behavioral changes in chimpanzees following a move to a larger facility. *American Journal of Primatology*, 33, 218.
- Jensvold, M.L.A., & Fouts, R.S. (1993). Imaginary play in chimpanzees (*Pan troglodytes*). *Human Evolution*, 8, 217-227.
- Fouts, R.S., Abshire (Jensvold), M.L., Bodamer, M., & Fouts, D.H. (1989). Signs of enrichment: Toward the psychological well-being of chimpanzees. In E.F. Segal (Ed.), *Housing care and psychological wellbeing of captive and laboratory primates* (pp. 376-388). New Jersey: Noyes.

Under Review

- Doyle, K., Marino, L. & Jensvold, M.L. (Under review). Captive wildlife sanctuaries: A distinctive culture of care. In L.B. Van de Graff (Ed.). *Wild Animal Welfare and Well-being*. Springer Nature.
- Johnson, S., Fenton, A., & Jensvold, M.L. (Under review). *The three pillars of ethical research with nonhuman primates*. Cambridge.
- Dombrasuky, K., Jensvold, M.L., Shaw, H., & Davis, J.Q. (Under review). Chimpanzees coordinate interrogative markers to ask questions. *Gesture*.
- Jensvold, M.L. (In prep) Indexical pointing in chimpanzees. In (Eds. M. Krause, D. Leavens, & K. Bard *Pointing: Culture, Development, and Evolution*. Cambridge University Press.
- Barlow, K., & Jensvold, M.L. (In prep). Cultures of care: An ethnographic study of chimpanzee sanctuaries.

PROFESSIONAL PRESENTATIONS

- Lopez, N., Pauli, A., Seymour, K., & Jensvold, M.L. (2023, April). [Chimpanzee Caregivers Daily Shift Reports: A Preliminary Thematic Analysis](#). Poster presentation at the Northwest Anthropological Association Conference, Spokane, WA.
- Collins, E. & Jensvold, M.L. (2021, March). Communicative Function in the Utterances in Two Signing Chimpanzees. Poster presentation at University of Indiana Animal Behavior Conference. March 26. <https://animalbehavior.indiana.edu/documents/2021PosterAbstractsFinal3.23.pdf>
- Collins, E. & Jensvold, M.L. (2020, December). Communicative Function of Utterances in Two Signing Chimpanzees. Poster and Presentation at Conférence Virtuelle SQEBC 2020 (Société Québécoise pour l'Étude Biologique du Comportement). <https://www.youtube.com/watch?v=LjG7DIUFNbs&feature=youtu.be>
- Jensvold, M.L., Bauer, S., & Belanger, M. (2020, October 16). Quality of Life Assessment in Captive Chimpanzees. Poster presented at the Midwest Primate Interest Group. <https://midwestprimates.org/2020-annual-meeting/>
- Jensvold, M.L., Bauer, S., & Belanger, M. (2020, July). Quality of Life Assessment in Captive Chimpanzees. Poster presented at the Association for the Study of Animal Behaviour virtual conference July 16, 2020. <https://www.asabvirtual.org/>
- Dombrasuky, K., Coffman, G., de Bree, E., Patton, E., & Jensvold, M.L. (2019, March). Chimpanzees Modulate Signs Emphatically. Poster presented at Northwest Anthropological Association, Kennewick, WA.
- Dombrasuky, K., Coffman, G., de Bree, E., & Jensvold, M.L. (2018, March). Chimpanzees Modulate Signs in Requests. Poster presented at Northwest Anthropological Association, Boise, ID.

- Dombrasusky, K., Hings, C., Jensvold, M.L., & Shaw, H. (2017, April). Variability in Sign Use in Chimpanzees Before and After Relocation. Poster Presented at Rocky Mountain Psychological Association, Salt Lake City, UT. <https://osf.io/dngz6/>
- Mulcahy, J.B. & Jensvold, M.L. (2015, June). Toward a Common Goal: Opportunities for Collaboration Between Primate Sanctuaries and Universities. Paper presented at the American Society of Primatologists, Bend, OR.
- Keenan, S. & Jensvold, M.L. (2015, April). Effects of Conversational Partner in Conversations with Chimpanzees. Poster presented at the International Conference of Comparative Cognition, Melbourne Beach, FL.
- Jensvold, M.L. (2014, October). Philosophy of Care for Chimpanzees in Sanctuary. Invited symposium presentation North American Primate Sanctuary Association workshop. San Antonio, TX.
- Keenan, S. & Jensvold, M.L. (2014, May). Contextual Use of the Sign “Black” in a Signing Chimpanzee. Poster presented at Symposium on Undergraduate Research and Creative Expression, Central Washington University, Ellensburg WA.
- Putzier, A., Bettini, A., Keenan, S., & Jensvold, M.L. (2014, May). Picture Naming in Signing Chimpanzees. Poster presented at Symposium on Undergraduate Research and Creative Expression, Central Washington University, Ellensburg WA.
- Carner, A., Sullins, K., Wilding, L., Hendrickson, B., & Jensvold, M.L. (2013, May). Nighttime Enrichment Preferences of Three Captive Chimpanzees (*Pan troglodytes*). Poster presented at Symposium on Undergraduate Research and Creative Expression, Central Washington University, Ellensburg WA.
- Keenan, S. & Jensvold, M.L. (2013, May). Sign Dialects in Chimpanzees. Paper presented at Symposium on Undergraduate Research and Creative Expression, Central Washington University, Ellensburg WA.
- Mas, J., Carner, A., Sullins, K., Jensvold, M.L., & Zager, L. (2013, May). Exploring Visitor Behavior at a Florida Zoo. Poster presented at Symposium on Undergraduate Research and Creative Expression, Central Washington University, Ellensburg WA.
- Schulze, S., Mas, J., Stafford, R., & Jensvold, M.L. (2013, May). Captive Chimpanzee Preference for Environmental Enrichment: Naturalistic Vs. Artificial. Poster presented at Symposium on Undergraduate Research and Creative Expression, Central Washington University, Ellensburg WA.
- Keenan, S., & Jensvold, M.L. (2013, March). Sign Dialects in Chimpanzees. Paper presented at the Northwest Anthropological Association Conference, Portland, OR.
- Carner, A., Sullins, K., Wilding, L., Hendrickson, B., & Jensvold, M.L. (2013, March). Nighttime Enrichment Preferences of Three Captive Chimpanzees. Poster presented at presented at the Northwest Anthropological Association Conference, Portland, OR.
- Pritchard, A., Sheeran, L., Jensvold, M.L., Gabriel, K., Li, J., & Wagner, S., (2013, March). Measuring Personality Traits in Provisioned Tibetan Macaques (*Macaca thibetana*), Mt. Huangshan, China. Poster presented at presented at the Northwest Anthropological Association Conference, Portland, OR.
- Schulze, S., Mas, J., Stafford, R., & Jensvold, M.L. (2013, March). Captive Chimpanzee Preference for Environmental Enrichment: Naturalistic vs. Artificial. Poster presented at presented at the Northwest Anthropological Association Conference, Portland, OR.
- Keenan, S., & Jensvold, M.L. (2012, May). Using Type-Token Ratio as Measurement for Lexical Diversity in Chimpanzees. Paper presented at Paper presented at Symposium on University Research and Creative Expression, Central Washington University, Ellensburg, WA.
- Keenan, S., & Jensvold, M.L. (2012, April). Using Type-Token Ratio as Measurement for Lexical Diversity in Chimpanzees. Paper presented at Rocky Mt. Psychological Association, Reno, NV.

- Larsen, G., Campion, T., & Jensvold, M.L. (2012, April). Gesture Use by Free-living Chimpanzees (*Pan troglodytes*) Related to Partner Attentional State. Poster presented at Rocky Mt. Psychological Association, Reno, NV.
- Leeds, C. & Jensvold, M.L. (2012, April). Spontaneous and Adjacent Utterances in Chimpanzee Conversations. Poster presented at Rocky Mt. Psychological Association, Reno, NV.
- Mas, J., Pritchard, A., Jensvold, M.L., & Zager, L. (2012, April). The Effect of Signage on Zoo Visitors at a Chimpanzee (*Pan troglodytes*) Exhibit. Poster presented at Rocky Mt. Psychological Association, Reno, NV.
- Jensvold, M.L., Zager, L., & Bismanovsky, D. (2011, August). Promoting Animal Welfare: Interactions with Caregivers and Zoo Visitors. Paper presented at From Good Care to Great Welfare: Advancing Zoo Animal Welfare Science and Policy Symposium. Detroit, MI.
- Bismanovsky, D. & Jensvold, M.L. (2011, May). Chimpanzee Responses to Visitors Using Chimpanzee-Friendly Behaviors. Paper presented at Symposium on Undergraduate Research and Creative Expression, Central Washington University, Ellensburg, WA.
- Davis, A., Leeds, C.A., Jensvold, M.L., & Fouts, D. (2011, May). Evidence for Menstrual Synchrony in Captive Chimpanzees. Symposium on Undergraduate Research and Creative Expression, Central Washington University, Ellensburg, WA.
- Larsen, G., Jensvold, M.L., & Campion, T. (2011, May). Gesture Use by Free-Living Chimpanzees (*Pan troglodytes*). Poster presented at Symposium on Undergraduate Research and Creative Expression, Central Washington University, Ellensburg, WA.
- Revels, J. & Jensvold, M.L. (2011, May). Visitor Opinion in Artificial vs. Natural Enrichment Conditions. Poster presented at Symposium on Undergraduate Research and Creative Expression, Central Washington University, Ellensburg, WA.
- Leeds, C.A., Davis, A., Jensvold, M.L., & Fouts, D. (2011, March). Evidence for Menstrual Synchrony in Captive Chimpanzees. Poster presented at the Northwest Anthropological Association, Moscow ID.
- Zager, L. & Jensvold, M.L. (2011, March). Encouraging Friendly Chimpanzee Behaviors. Paper presented at the Northwest Anthropological Association, Moscow ID.
- Jensvold, M.L., Stadtner, G., & Buckner, J. (2010, June). Measuring the Quality of Interactions Between Caregivers and Chimpanzees. Poster presented at Science in the Service of Animal Welfare, Universities Federation of Animal Welfare, York, UK.
- Metzler, D., Jensvold, M.L., Fouts, D., & Fouts, R. (2010, May). Vocabulary Growth in Adult Cross-Fostered Chimpanzees. Paper presented at the Symposium on Undergraduate Research and Creative Expression, Central Washington University, Ellensburg, WA.
- Jensvold, M.L. (2010, April). Interactive use of sign language by cross-fostered chimpanzees. Paper presentation at Sign Language Studies of Cross-Fostered Chimpanzees: Ongoing Inquiry Symposium. University of Nevada-Reno, NV.
- Bismanovsky, D., Zager, L., & Jensvold M.L. (2010, March). Recent Patterns of Conversation in an Adult Chimpanzee Using American Sign Language. Paper presented at the Northwest Anthropological Association, Ellensburg, WA.
- Cole, M., Herigstad, T., & Jensvold, M.L. (2010, March). Daily Arousal Level's Effect on a Chimpanzee's Categorical Sign Usage. Paper presented at the Northwest Anthropological Association, Ellensburg, WA.
- Gibbons, J., Leake, M., Potosky, R., & Jensvold, M.L. (2010, March). Use of Holiday Related Signs by a Cross-Fostered Chimpanzee. Paper presented at the Northwest Anthropological Association, Ellensburg, WA.
- Metzler, D., Jensvold, M.L., Fouts, D., & Fouts R. (2010, March). Vocabulary Growth in Adult Cross-Fostered Chimpanzees. Paper presented at the Northwest Anthropological Association, Ellensburg, WA.

- Reveles, J., & Jensvold, M.L. (2010, March). Visitor Knowledge Gains in a New Educational Workshop: The Chimposium. Poster presented at the Northwest Anthropological Association, Ellensburg, WA.
- Jensvold, M.L., Buckner, J., & Stadtner. (2009, September). Caregiver-Chimpanzee Interactions with Species-Specific Behaviors. Paper presented at the joint conference of the International Congress of Zookeepers and American Association of Zookeepers, Seattle, WA.
- McCarthy, M., Brown, H., Gray, A., Lee, K., Steele, R., Jensvold, M.L., & Fouts, D. (2009, May). The Effects of the Chimposium Educational Program on Visitor Knowledge and Attitudes. Paper presented at the Symposium on University Research and Creative Expression, Ellensburg, WA.
- Leeds, C.A., McCarthy, M., Bismanovsky, D., Denton, T., Jensvold, M.L., & Fouts, D. (2009, May). Social Structure in Three Captive Chimpanzees. Poster presented at the Symposium on University Research and Creative Expression, Ellensburg, WA.
- Metzler, D., Jensvold, M.L., Fouts, R., & Fouts, D. (2009, May). The Acquisition of New Signs in Adult Cross-Fostered Chimpanzees. Poster presented at the Symposium on University Research and Creative Expression, Ellensburg, WA.
- O’Rahilly, K., Leake, M., Potosky, R., Wallin, J., Jensvold, M.L., Fouts, D., & Fouts, R. (2009, May). Vocabulary Use of Four Cross-Fostered Signing Chimpanzees. Poster presented at the Symposium on University Research and Creative Expression, Ellensburg, WA.
- Metzler, D.K., Jensvold, M.L., Fouts, R.S., & Fouts, D.H. (2009, April). The Acquisition of New Signs in Adult Cross-Fostered Chimpanzees. Poster presented at the Northwest Anthropological Conference, Newport, OR.
- O’Rahilly, K., Leake, M., Potosky, R., Wallin, J., Jensvold, M.L., Fouts, D., & Fouts, R. (2009, April). Vocabulary Use of Four Cross-Fostered Signing Chimpanzees. Poster presented at the Northwest Anthropological Conference, Newport, OR.
- Rasmussen, C.L., & Jensvold, M.L. (2009, April). Contra Lateral Pointing in Cross-Fostered Chimpanzees. Poster presented at the Northwest Anthropological Conference, Newport, OR.
- Rasmussen, C.L., & Jensvold, M.L. (2008, November). Contra Lateral Pointing in Cross-Fostered Chimpanzees. Poster presented at the Annual Biomedical Research Conference for Minority Students, Orlando, FL.
- Jensvold, M.L. (2008, April). The effects of species-specific behaviors in captive chimpanzees. Paper presented at the Rocky Mountain Psychological Association, Boise, ID.
- Rasmussen, C., Jensvold, M.L., Fouts, R.S., Fouts, D.H., & Wallin, J. (2008, April). Signs of cultural transmission in a chimpanzee. Poster presented at the Rocky Mountain Psychological Association, Boise, ID.
- Wallin, J. M., Jensvold, M. L., Fouts, R. S., & Fouts, D. H. (2008, April). The recent expressive lexicon of a cross-fostered chimpanzee. Poster presented at the 2008 Rocky Mountain Psychological Association, Boise, ID.
- Jensvold, M.L. (2007, October). Caregiver’s use of chimpanzee behaviors promotes positive interactions. Paper presented at the American Association of Zookeepers, Galveston, TX.
- Jensvold, M.L. (2007, October). Conversational repair in cross-fostered chimpanzees. Paper presented at the Semiotic Society Association, New Orleans, LA.
- Halberg, R., Jensvold, M.L., & Sheeran, L. (2007, May). Laughter, number of play partners, age and play bout duration in captive chimpanzees (*Pan troglodytes*) in an African sanctuary. Poster presented at the Symposium for University Research and Creative Expression, Ellensburg, WA.
- Jensvold, M.L. (2007, May). Use of species-specific behaviors in chimpanzee/caregiver interactions. Paper presented at the Central Washington University Symposium on University Research and Creative Expression, Ellensburg, WA.

- McCarthy M.S., Jensvold, M.L., Fouts, R.S., & Fouts, D.H. (2007, May). Use of gesture sequences in captive chimpanzee play. Paper presented at the Central Washington University Symposium on University Research and Creative Expression, Ellensburg, WA.
- Wallin, J. M., Jensvold, M. L., & Sheeran, L. K. (2007, May). Play, laughter, and humor in captive chimpanzees (*Pan troglodytes*). Paper presented at the Central Washington University Symposium on University Research and Creative Expression, Ellensburg, WA.
- Marburg, T.L., Jensvold, M.L., Fouts, R., & Fouts, D. (2007, April). Comparison of intragroup greeting and reassurance behaviors across four chimpanzee (*Pan troglodytes*) social groups in American and African sanctuaries. Paper presented at the Northeast Anthropological Association, New York.
- Hartel J.A., Jensvold M.L., Fouts R.S., & Fouts D.H. (2007, March). Signing chimpanzees' (*Pan troglodytes*) interactions with familiar and unfamiliar signers and nonsigners. Poster presented at The Mind of the Chimpanzee Conference, Chicago, IL.
- McCarthy M.S., Jensvold, M.L., Fouts, R.S., & Fouts, D.H. (2007, March). Use of gesture sequences in captive chimpanzee play. Paper presented at the Rocky Mountain Psychological Association, Denver, CO.
- Wallin, J., Jensvold, M.L. & Sheeran, L. (2006, October). Chimpanzee play, laughter and humor. Poster presented at the Murdock Charitable Trust Annual Regional Undergraduate Research Conference. Portland, OR.
- McCarthy, M., Jensvold, M.L., Fouts, D.H., & Fouts, R.S. (2006, May). Space use in captive chimpanzees. Paper presented at CWU Symposium on University Research and Creative Expression, Ellensburg, WA.
- Jensvold, M.L., Sheeran, L., Halberg, R. & Keyser, J. (2006, May). Laughter, number of play partners, and play bout duration in captive chimpanzees (*Pan troglodytes*). Paper presented at CWU Symposium on University Research and Creative Expression, Ellensburg, WA.
- McCarthy, M., Jensvold, M.L., Fouts, D.H., & Fouts, R.S. (2006, April). Space use in captive chimpanzees. Paper presented at the Rocky Mt. Psychological Association Conference, Park City, UT.
- Puffer, A. M., Jensvold, M.L., Fouts, D.H., & Fouts, R.S. (2006, April). Weather influences chimpanzees' choice to go outside. Paper presented at the Rocky Mt. Psychological Association Conference, Park City, UT.
- Shiau, S. J., & Jensvold, M.L. (2006, April). Chimpanzee use of modulation in response to questions. Paper presented at the Rocky Mt. Psychological Association Conference, Park City, UT.
- Jensvold, M.L., Sheeran, L.S., Halberg, R.H., & Keyser, J. (2006, March). Laughter, number of play partners, and play bout duration in captive chimpanzees (*Pan troglodytes*). Paper presented at the Northwest Anthropological Conference, Seattle, WA.
- Jensvold, M.L., Fouts, D.H., & Fouts, R.S. (2005, November). Caring for chimpanzees. Poster presented at the annual Earthwatch Conference, Cambridge, MA.
- Jensvold, M.L., Baeckler, S.A., Fouts, R.S., & Fouts, D.H. (2004, October). Their own terms: Techniques in humane caregiving of captive chimpanzees. Poster presented at the International Society of Anthrozoology, Glasgow, Scotland, UK.
- Jensvold, M.L., Fouts, D.H., & Fouts, R.S. (2004, April). Environmental enrichment with objects and caregivers for captive chimpanzees. Paper presented at the Rocky Mt. Psychological Association, Reno, NV.
- Hartel, J., Jensvold, M.L., Bowman, H., Fouts, R., & Fouts, D. (2004, April). The effect of foraging on the activity budgets of four captive chimpanzees. Poster presented at the Rocky Mt. Psychological Association, Reno, NV.
- Jensvold, M.L., Fouts, R.S., & Fouts, D.H. (2003, April). Assessment of species typical behaviours in captive chimpanzees. Poster presented at Science in the Service of Animal Welfare, Universities Federation of Animal Welfare Symposium, Edinburgh, Scotland, UK.

- Derbawka, M., Jensvold, M.L., Fouts, R., & Fouts, D. (2003, May). Chimpanzees' use of objects on theme days. Poster presented at Source Undergraduate Conference, Ellensburg, WA.
- Jensvold, M.L., Fouts, R.S., & Fouts, D.H. (2002, November). Caring for chimpanzees. Poster presented at the annual Earthwatch Conference, Cambridge, MA.
- Jensvold, M.L. (2002, May). Interactive use of sign language by cross-fostered chimpanzees. Paper presented at the First Conference of Faculty and Graduate Students Research on Scholarly Achievements, Ellensburg, WA.
- Bowman, H., Jensvold, M.L., Fouts, D.H., & Fouts, R.S. (2002, May). Species typical use of objects in captive chimpanzees. Paper presented at the First Conference of Faculty and Graduate Students Research on Scholarly Achievements, Ellensburg, WA.
- Cohen, N., Martinson, J., Pieracci, M., Tata, M.J., Jensvold, M.L., & Fouts, R. (2001, September). The effect of an educational program on attitudes toward chimpanzees. Poster presented at the Chimpanzoo Conference, Portland, OR.
- Hayashida, C., Grandia, A., Blake, S., Eburn, C., Jung, C., Parker, S., Jensvold, M.L., & Fouts, R. (2001, September). A social hierarchy of five chimpanzees. Poster presented at the Chimpanzoo Conference, Portland, OR.
- Jaffe, S., Jensvold, M.L., & Fouts, D. (2001, September). Chimpanzee to chimpanzee signed interactions. Poster presented at the Chimpanzoo Conference, Portland, OR.
- Fouts, R.S., & Jensvold, M.L. (2001, July). Armchair delusions v. empirical realities: A neurological model for the continuity of ape and human languaging. Paper presented at the American Academy of Arts and Sciences, Cambridge, MA.
- Jensvold, M.L.A., Fouts, R.S., & Fouts, D.H. (2001, April). Novelty, plurality, and species typical behaviors: Their role in object enrichment in captive chimpanzees. Paper presented at the Rocky Mountain Psychological Association, Reno, NV.
- Jensvold, M.L.A. (2000, June). Cross-fostered chimpanzee conversational responses in signed interactions with humans. Poster presented at American Psychological Association, Miami, FL.
- Jensvold, M.L.A. (1999, April). Discussant for Ethological Studies of Captive Chimpanzees. Symposium at the Rocky Mountain Psychological Association, Ft. Collins, CO.
- Jensvold, M.L.A., Fouts, R.S., Hood, J.H., Fouts, D.H., & Waters, G. (1999, June). Development of phrases in a signing chimpanzee. Paper presented at the Human Behavior and Evolution Society, Salt Lake City, UT.
- Martin, A., Jensvold, M.L., Fouts, R.S., & Fouts, D.H. (1999, October). Behavioral changes in captive chimpanzees between two facilities. Paper presented at the Chimpanzoo Conference, Manhattan, KS.
- Sanz, C.M., Fouts, D.H., Jensvold, M.L.A., & Fouts, R.S. (1999, April). Space use and locomotion behavior of five socially housed chimpanzees. Symposium conducted at the Rocky Mountain Psychological Association, Ft. Collins, CO.
- Waters, G.S., McDowell, R.R., Jensvold, M.L., Fouts, R.S., & Fouts, D. (1999, October). Captive chimpanzee (*Pan troglodytes*) object enrichment: The effect of item novelty, category, and amount. Paper presented at the Chimpanzoo Conference, Manhattan, KS.
- Fouts, R.S., Fouts, D.H., & Jensvold, M.L.A. (1998, October). Space use and locomotion behaviors in chimpanzees. Poster presented at the Earthwatch Conference, Cambridge, MA.
- Fouts, R.S., Fouts, D.H., & Jensvold, M.L.A. (1998, October). Caring for chimpanzees. Paper presented at the Earthwatch Conference, Cambridge, MA.
- Sanz, C., King, B., Jensvold, M.L.A., Fouts, R., & Fouts, D. (1998, October). Human aesthetics versus chimpanzee needs. Poster presented at Chimpanzoo Conference, Los Angeles, CA.
- Jensvold, M.L.A. (1997, April). Chimpanzee's responses to question series. Symposium conducted at Northwest Anthropological Association Conference, Ellensburg, WA.

- Sanz, C.M., & Jensvold, M. L. A. (1997, April). Chimpanzees' reaction to naive and educated visitors. Symposium conducted at Northwest Anthropological Association Conference, Ellensburg, WA.
- Sanz, C.M., & Jensvold, M.L.A. (1997, May). Chimpanzees' reaction to naive and educated visitors. Paper presented at Undergraduate Research Symposium, Ellensburg, WA.
- Jensvold, M.L.A. (1996, April). Chimpanzee responses to question series. Symposium conducted at the Rocky Mountain Psychological Association, Park City, UT.
- Jensvold, M.L.A., & Fouts, R.S. (1994). Behavioral changes in chimpanzees following a move to a larger facility. Paper presented at the American Society of Primatologists, Seattle, WA.
- Fouts, R.S., Fouts, D.H., Bodamer, M., Jensvold, M.L.A., Shaw, H., Radeke, M., & Simpson, D. (1993, July). Novel enrichment ideas for five socially housed chimpanzees. Poster presented at the First Annual Environmental Enrichment Conference, Portland, OR.
- Fouts, R.S., Glenn, J., Jensvold, M.L.A., & Krause, M. (1993, July). A standard operating procedure for chimpanzee enrichment. Poster presented at the First Annual Environmental Enrichment Conference, Portland, OR.
- Jensvold, M.L.A., Fouts, R.S., & Radeke, M. (1993, July). Environmental enrichment and species typical behaviors in captive chimpanzees. Poster presented at the First Annual Environmental Enrichment Conference, Portland, OR.
- Jensvold, M.L.A., Kowalski, A., Radeke, M., & Fouts, R.S. (1993, April). Activity budgets of five socially housed chimpanzees. Poster presented at the Joint Conference of Western and Rocky Mountain Psychological Association, Phoenix, AZ.
- Abshire (Jensvold), M.L. (1991, April). Imaginary play in deaf children. Paper presented at the Western Psychological Association, Los Angeles, CA.
- Fouts, R.S., Fouts, D.H., Abshire (Jensvold), M.L., & Bodamer, M. (1991, December). Private signing and imagination. Paper presented at Understanding Chimpanzees, Chicago Academy of Science, Chicago, IL.
- Abshire (Jensvold), M.L. (1989, April). New directions in chimpanzee sign language research. Symposium conducted at the Western Psychological Association, Reno, NV.

INVITED ADDRESS

- Jensvold, M.L. (2023, May 16). Prevalence of Compassion Fatigue in Chimpanzee Caregivers. Presentation at 2023 Workshop, North American Primate Sanctuary Alliance, Atlanta, GA.
- Barr, T. & Jensvold, M.L. (2021, May 19). Fauna Foundation virtual presentation. The Regroupement des Blind et Amblyopes du Montréal Métropolitain (RAAMM).
- Barr, T., & Jensvold, M.L. (2021, April 21). Fauna Foundation virtual presentation. College Ahuntsic Montreal.
- Jensvold, M.L. (2021, May 19 & June 21). Summer Lecture Series.
- Jensvold, M.L. (2021, February 2 & March 2). Guelph Wellington Men's Club.
- Jensvold, M.L. (2019, April 2). Caring for Chimpanzees. Bornean Orangutan Society. Toronto, Ontario.
- Jensvold, M.L. (2018, November 2). Caring for Chimpanzees at Fauna. Information and Technology Department, John Abbott College, St-Anne-de-Bellevue, Quebec.
- Jensvold, M.L. (2018, March 15). An Ethological Approach to Communication. Decoding Alien Intelligence Workshop. SETI Institute. Mt. View, CA.
- Jensvold, M.L. (2017, April 7). Sign Language Studies Lead to Studies of Captive Chimpanzee Care. Gardner Memorial Lecture, Rocky Mountain Psychological Association, Salt Lake City, UT.
- Jensvold, M.L. (2017, March 30). Chimpanzees of Fauna Foundation, Captive Wildlife and the Law Symposium, Vermont Law School, South Royalton, VT.
- Jensvold, M.L. (2017, January). Friends of Washoe: Update on Tatu and Loulis and Their New Community. Primate Awareness Network, Central Washington University.

- Jensvold, M.L. (2016, October 18). Conversations with Chimpanzees. Bornean Orangutan Society Canada. Toronto, Ontario, Canada
- Jensvold, M.L. (2016, April 3). Signs of Art and Pretend Play in Chimpanzees. Workshop on the Origins of Awe and Wonder. University of Indiana, Bloomington.
- Jensvold, M.L. (2015, November 9). Conversations with Chimpanzees. Sigma Xi Lecture. McGill University, Montreal, QC.
- Jensvold, M.L. (2014, September 17). Conversations with Chimpanzees. Keynote and Sigma Xi Distinguished Lecturer. Radford University, Radford, VA.
- Jensvold, M.L. (2014, April 11). Conversations with Chimpanzees. Sigma Xi Distinguished Lecturer. Southern Illinois University, Carbondale, IL.
- Jensvold, M.L. (2014, March 6). Conversations with Chimpanzees. Sigma Xi Distinguished Lecturer. Portland State University, Portland, OR.
- Jensvold, M.L. (2014, February). Opportunities and Priorities in a Public Institution: Education and/or Quality Care. Presentation at The Humane University: Incorporating Animal Issues and Humane Education in Academic Institutions Florida Gulf Coast University and the Humane Society of the United States. Ft. Myer, Florida. February 5-7, 2014.
- Jensvold, M.L. (2012, September). Experimental Conversations: Sign Language Studies with Chimpanzees. Plenary Speaker at From Grooming to Speaking: Recent trends in Social Primatology and Human Ethology. Centre for Philosophy of Science of the University of Lisbon. International Colloquium September 10-12, 2012.
- Jensvold, M.L. (2011, April). Keynote Address: The Ethological Roots of Language Acquisition. Washington Association of Foreign Language Teachers. Ellensburg, WA.
- Jensvold, M.L. (2011, April). Drawings, Imaginary Play, and Private Signing in Chimpanzees. Central Washington University, Primate Awareness Week.
- Jensvold, M.L. (2010, September). Conversations With Chimpanzees: Transforming our View of Nature. Florida Gulf Coast University, Ft. Myers.
- Jensvold, M.L. (2010, April). Improving Captive Care: Taking Them on Their Own Terms. Primate Awareness Week. Central Washington University, Ellensburg, WA.
- Jensvold, M.L. (2010, April). Interactive Use of Sign Language by Cross-Fostered Chimpanzees. Symposium on Sign Language Studies of Cross-Fostered Chimpanzee: Ongoing Inquiry. University of Nevada-Reno, NV.
- Jensvold, M.L. (2010, February). Conversations with Chimpanzees: Only in Ellensburg. Ellensburg Rotary Club, Ellensburg, WA.
- Jensvold, M.L. (2008, November). Conversations with Chimpanzees: Transforming our View of Nature. St. Johns Episcopal Church, Tallahassee, FL.
- Jensvold, M.L. (2007, April). Caring for chimpanzees on their own terms: Research with signing and zoo chimpanzees. University of West Florida, Pensacola.
- Jensvold, M.L. (2003, March). Chimpanzees and sign language. Oakland Zoo, Oakland, CA.
- Jensvold, M.L. (2003, March). The roots of early language development. Head Start/ECEAP Child Development/Mental Health/Family Support Interdisciplinary Conference, Central Washington University, Ellensburg, WA
- Jensvold, M.L. (2001, May). Caring for chimpanzees. Wenatchee Valley Community College, Wenatchee, WA.
- Jensvold, M.L.A. (1999, April). Aspects of signing in chimpanzees: Studies inspired by Beatrix Gardner. Invited address at the Rocky Mountain Psychological Association, Ft. Collins, CO.

Newsletters

- Jensvold, M.L. (Summer, 2019). Review of Mama's Last Hug by Frans deWaal in *AWI Quarterly*, 68(2), 26.

- Jensvold, M.L. (Summer, 2018). Review of *The Great Apes a Short History* by Chris Herzfeld in *AWI Quarterly*, 67(2), 30.
- Jensvold, M.L. (Summer, 2012) Chimpanzees in the news: Not always a nice story. *Friends of Washoe*, 33(4), 3-4.
- Larson, G., Campion, T., & Jensvold, M.L. (Spring, 2012). Gesture use by free-living chimpanzees related to partner attentional state. *Friends of Washoe*, 33(3), 7-8.
- Leeds, A. & Jensvold, M.L. (Spring, 2012). The spontaneous and adjacent utterance use of signing chimpanzees. *Friends of Washoe*, 33(3), 9-11.
- Jensvold, M.L. (Fall, 2011). Project Nim highlights heartbreaks of chimpanzees in captivity. *AWI Quarterly*, 6 (4), 24-25.
- Bismanovsky, D. & Jensvold, M.L. (Summer, 2011). Chimpanzee responses to visitors using chimpanzee-friendly behaviors. *Friends of Washoe*, 32(4), 9.
- Larson, G., Jensvold, M.L., Campion, T. (Summer, 2011). Gesture use by free-living chimpanzees related to partner attentional state. *Friends of Washoe*, 32(4), 9-10.
- Davis, A., Leeds, C., Jensvold, M.L., & Fouts, D. (Summer, 2011). Evidence for menstrual synchrony in captive chimpanzees. *Friends of Washoe*, 32(4), 10.
- Bismanovsky, D., Zager, L., Jensvold, J.L. & Fouts, D. (Spring, 2010). Recent patterns of language in an adult chimpanzee using American Sign Language. *Friends of Washoe*, 31(3), 23-25.
- Cole, M., Herigstad, T., & Jensvold, M.L. (Spring, 2010). Daily arousal levels' effect on a chimpanzee's categorical sign usage. *Friends of Washoe*, 31(3), 20-22.
- Gibbons, J., Leake, M., Potosky, & Jensvold, M.L. (Spring, 2010). Use of holiday related signs by a cross-fostered chimpanzee. *Friends of Washoe*, 31(3), 17-19.
- Metzler, D., Jensvold, M.L., Fouts, D., & Fouts, R. (Spring, 2010). Vocabulary growth in adult cross-fostered chimpanzees. *Friends of Washoe*, 31(3), 13-16.
- Rasmussen, C.L., & Jensvold, M.L. (Winter, 2009). Contra-lateral pointing in cross-fostered chimpanzees. *Friends of Washoe*, 30(2), 7-10.
- Cole, M., Hendershott, R., Lynn, L., Sadlier-Brown, E., Ventura, B., & Jensvold, M.L. (Fall, 2009). Sorting chimpanzee drawings based on similarity of form. *Friends of Washoe*, 31(1), 7-9.
- Leeds, C., McCarthy, M., Morrison, J., Jensvold, M.L., & Fouts, D. (Fall, 2009). Social structure in three captive chimpanzees. A reexamination. *Friends of Washoe*, 31(1), 11-12.
- McCarthy, M., Brown, H., Gray, A., Lee, K., Steele, R., Jensvold, M.L., Fouts, D., & Reveles, J. (Fall, 2009). Effects of the Chimposium educational program on visitor knowledge and attitudes. *Friends of Washoe*, 31(1), 13-17.
- Jensvold, M.L. (Fall, 2009). Book review of *The Wauchula Woods Accord* by Charles Siebert. *Animal Welfare Institute Quarterly*, 58(4), 24.
- Metzler, D.K., Jensvold, M.L., Fouts, R.S., & Fouts, D.H. (Spring, 2009). The acquisition of new signs in adult cross-fostered chimpanzees. *Friends of Washoe*, 30(3), 11-13.
- O'Rahilly, K., Leake, M., Potosky, R., Wallin, J.M., Jensvold, M.L., Fouts, D.H., & Fouts, R.S. (Spring, 2009). Vocabulary use of four cross-fostered, signing chimpanzees. *Friends of Washoe*, 30(3), 7-10.
- McCarthy, M., Bismanovsky, D., Denton, T., Leeds, A., Stucker, M., & Jensvold, M.L. (Fall, 2008). Social structure in three captive chimpanzees. *Friends of Washoe*, 30(1), 14-18.
- Rasmussen, C.L., Jensvold, M.L., Fouts, R.S., Fouts, D.H., & Wallin, J.M. (Summer, 2008). Signs of cultural transmission in a chimpanzee. *Friends of Washoe*, 29(4), 9-10.
- Wallin, J.M., Jensvold, M.L., Fouts, R.S., & Fouts, D.H. (Summer, 2008). The recent expressive lexicon of a cross-fostered chimpanzee. *Friends of Washoe*, 29(4), 5-7.
- Jensvold, M.L. (Spring, 2007). Species-specific behaviors. *Animal Welfare Institute Quarterly*, 56(2), 20.

- Jensvold, M.L. (Fall, 2006). Why I do what I do: Data collection at the Zoo Northwest Florida. *Friends of Washoe*, 28 (1), 1-5.
- McCarthy, M.S., Jensvold, M.L., Fouts, R.S., & Fouts, D.H. (Summer, 2006). Space use in captive chimpanzees. *Friends of Washoe*, 27(4), 9-10.
- Puffer, A.M., Jensvold, M.L., Fouts, D.H., & Fouts, R.S. (Summer, 2006). Weather influences chimpanzees choice to go outside. *Friends of Washoe*, 27(4), 5-8.
- Hedden, B., Lammert, R., Hill, A., Goldfein, J., Jensvold, M.L., Dietz, L., & Sheeran, L.K. (Fall, 2005). Laughter, smiling and humor: A preliminary report. *Friends of Washoe*, 27(1), 16-17.
- McCarthy, M., Haight, J., Helble, N., Moskowitz, H., Smith, L., Smith, S., Jensvold, M.L., & Keyser, J. (Fall, 2005). Forage pilot study. *Friends of Washoe*, 27(1), 13-15.
- Dietz, L., Puffer, A., Jensvold, M.L., Fouts, R.S., & Fouts, D.H. (Spring, 2005). Chimpanzees' use of an outdoor enclosure as a function of weather. *Friends of Washoe*, 26(3), 8-12.
- Jensvold, M.L., Baeckler, S., Fouts, R.S., & Fouts, D.H. (Fall, 2004). Their own terms: Techniques in humane caregiving of captive chimpanzees. *Friends of Washoe*, 26(1), 14-18.
- Derbawka, M., Jensvold, M.L., Fouts, D.H., & Fouts, R.S. (Winter, 2004). Chimpanzees' use of objects on theme days. *Friends of Washoe*, 25(2), 7-9.
- Jensvold, M.L. (Spring, 2003). A visit to the Center for Captive Chimpanzee Care in New Mexico. *Friends of Washoe*, 24(3), 2-3.
- Jensvold, M.L., Fouts, R.S., & Fouts, D.H. (Spring, 2003). Assessment of species typical behaviors in captive chimpanzees. *Friends of Washoe*, 24(3), 8-12.
- Jensvold, M.L., Fouts, D.H., & Fouts, R.S. (Fall/Winter, 2002/2003). Caring for chimpanzees: A humane approach. *Friends of Washoe*, 24(1/2), 7-8.
- Jensvold, M.L. (Summer, 2002). The celebration of life. *Friends of Washoe*, 23(4), 3.
- Hayashida, C., Jensvold, M.L., Grandia, A., Blake, S., Eburn, A., Jung, C., Parker, S., & Fouts, R. (Winter, 2002). Social hierarchy of five captive chimpanzees. *Friends of Washoe*, 23(2), 7-13.
- Martinson, J., Jensvold, M.L., Cohen, N., Pieracci, M., Tata, M.J., & Fouts, R.S. (Fall, 2001). An educational program's effect on attitudes toward chimpanzees. *Friends of Washoe*, 23(1), 12-14.
- Jensvold, M.L., Fouts, D.H., & Fouts, R.S. (Summer, 2001). Species typical use of objects in captive chimpanzees. *Friends of Washoe*, 22(3), 6-9.
- Jensvold, M.L., Fouts, R.S., & Fouts, D.H. (Summer/Fall, 1998). Preliminary report of space use and locomotion in captive chimpanzees. *Friends of Washoe*, 19(3/4), 22-26.
- Sanz, C. & Jensvold, M.L.A. (Summer/Fall, 1997). Chimpanzees' reaction to naïve versus educated visitors. *Friends of Washoe*, 18 (3/4), 9-14.
- Fouts, R.S., Fouts, D.H., Jensvold, M.L.A., & Bodamer, M.D. (Spring, 1994). An enriching approach to captive chimpanzee care. *In Touch*, 1, 1-7.
- Jensvold, M.L.A., & Fouts, R.S. (1993). Imaginary play in chimpanzees (*Pan troglodytes*). *Human evolution*, 8(3), 217-227.
- Abshire (Jensvold), M.L., & Raymond, E. (Summer/Fall, 1991). Imaginary play in deaf children. *Friends of Washoe*, 11/12(3), 8-9.

PANELS & WEBINARS

- What Animals Teach Us About Themselves, Roundtable Discussion, Animal Law Conference, October 15, 2021. <https://www.animallawconference.org/wp-content/uploads/2021/10/Agenda-Animal-Law-Conference-2021-4.pdf>
- Chimpanzees & Dolphins: from Research Subjects to Legal Persons. The Whale Sanctuary Project Webinar. November 22, 2020. <https://www.youtube.com/watch?v=r0kaGJeoNbg>
- Other Minds Animal Sentience Summer School at University of Quebec Montreal (UQAM), Panel Discussant, Primates, Voles, and Worms on June 26, 2018

https://www.youtube.com/watch?v=JYAIEv_4GZs&t=3310s and Nonhuman Personhood
June 27, 2018 <https://www.youtube.com/watch?v=EOF7bNP2E8w>
Pushing Boundaries Panel Discussant, University of Dalhousie, January 22, 2018.
University of Dalhousie. Student Animal Law Association. March 20, 2017

MEDIA COVERAGE

Global News Canada. Chimpanzee Refuge. July 10, 2023.
<https://globalnews.ca/video/9821108/chimpanzee-refuge?fbclid=IwAR0bqf932lpLqwSgxSqW-rJVyoKskdAyBNQUJE45Peju6nQSMt76CSlfpuw>
The Vegan Report Podcast. The Chimps and Monkeys of Fauna Sanctuary Need Your Love.
With Dr. Mary Lee Jensvold. July 11, 2023. https://rss.com/podcasts/veganreport/1029277/Faut-il_fermer_les_zoos? By Valérie Borde. L'actualité. May 31, 2023
Popular Science. Popular Chimpanzees Set Hand-Holding Trends for the Whole Group by
Jocelyn Solis-Moreira February 15, 2023.
<https://www.popsci.com/environment/chimpanzee-social-custom-handclasp/>
Montreal Guardian. Charitable Choices: Mary Lee Jensvold, Associate Director of Fauna
Foundation by Demian Vernieri. January 24, 2023. <https://montrealguardian.com/montreal-charity-fauna-foundation/>
Globo.com. Vida de Bico. Primatas conseguem se comunicar por meio da língua de sinais?
March 18, 2023. <https://vidadebicho.globo.com/comportamento/noticia/2023/03/primatas-conseguem-se-comunicar-por-meio-da-lingua-de-sinais.ghtml> [Portuguese]
News, CBC. All they want for Chimp-mas: Montreal chimpanzees release their holiday wishlist.
December 22, 2021. <https://www.cbc.ca/news/canada/montreal/fauna-foundation-wishlist-1.6271016>
The Last Word, BBC 4. Dr. R. Allen Gardner, the American ethologist who trained a chimpanzee
to use sign language. October 15, 2021. Podcast.
<https://www.bbc.co.uk/sounds/play/p09yshgp>
As It Happens, CBC radio interview. October 4, 2021. <https://www.cbc.ca/radio/asithappens/as-it-happens-monday-edition-1.6198826> begins 36.32.
Duetschlandfunk Radio Show. September 9, 2021. Kommunikation zwischen Mensch und
TierMit Schimpansen sprechen. https://www.deutschlandfunk.de/kommunikation-zwischen-mensch-und-tier-mit-schimpansen.4314.de.html?dram:article_id=502576 [German]
Timeline Magazine, Fairchild TV, Ontario, Canada. February 17, 2021.
https://www.fairchildtv.com/english/programarchive_detail.php?n=18&topic=6325&episode=10315 [Mandarin]
Ici Explora, Radio Canada. Les chimpanzés, nos cousins au-delà du génome. February 11, 2021.
<https://ici.exploratv.ca/blogue/chimpanzes-cousins-au-dela-genome/> [French]
Man Raised Alongside Chimp Says It Should Never Happen Again. By Simon Ings in *New
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Janylene Boucher [French]
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Sigma Xi meet your fellow companions: <https://www.sigmaksi.org/news/meet-your-fellow-companions/mary-lee-jensvold> and published in Meet Your Fellow Companion: Mary Lee Jensvold, (2015, May-June), *American Scientists*, p. 240 ^[1]_[SEP]

Chimpanzees Take a Huge Step Towards Some Human Rights. Brandon Keim, April 21, 2015.
<http://www.wired.com/2015/04/chimpanzee-rights-may-become-reality>

Another Court Denies Legal Rights for Chimpanzees. Brandon Keim, January 5, 2015
<http://www.wired.com/2015/01/court-denies-kiko-chimp-rights/>

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Mourning the Loss Dar, The Chimp Who Touched Many Lives. KNDO Yakima. December 9, 2012.

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CWU Chimp, Dar, Dies at Age 36. Justin Pittman, *Daily Record*, November 26, 2012.

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Chimpanzee at CWU Dies. KHQ, Spokane, November 25, 2012.

Chimpanzee at CWU Dies. *East Oregonian*. November 25, 2012.

Chimpanzee at CWU Dies. *Tri-City Herald*. November 25, 2012.

Chimpanzee at CWU Dies. *Seattle Times*. November 25, 2012.

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Introducing Humans to Chimps. Jane Gargas, *Tri-City Herald*. October 13, 2012.

Learning Their Language. Jane Gargas, *Yakima Herald Republic*. October 7, 2012.
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<http://www.cnn.com/2011/12/29/showbiz/florida-tarzan-chimp/index.html>
Harmful Chimpanzee Research Not Worth the Pain. *Wired.com*, December 15, 2011.
Apemanian and Project Nim. *Pasadena Art Beat*, July 12, 2011.
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Watching For Signs. *Pasadena Weekly*, July 14, 2011.
http://www.pasadenaweekly.com/cms/story/detail/watching_for_signs/10329/
Into the Sunset: Couple Who Brought Chimps to CWU Retires. *Ellensburg Daily Record*, June 21, 2011.
Longtime Chimpanzee Research Team Retires. *Yakima Herald-Republic*, June 26, 2011.
Life of the chimpanzees. *The Observer*, January 20-26, 2011.
Animal Intelligence: Do Animals Think? *Congressional Quarterly Researcher*, October 22, 2010, 20 (37), 869-892.
Chimps Adjust to Life After Washoe, *Ellensburg Daily Record*, September 18, 2010.
Woman Who Chats with Chimps in Sign Language to Appear Here, *Eagle News*, September 15, 2010.
WCGU-FM (an NPR affiliate), Ft. Myers, FL. Gulf Coast Live “Teaching Chimps to Sign”
Aired September 10, 2010.
KCWU TV, Ellensburg, WA. Interview on Robert Lowery’s “Conversations” program. Spring 2010.
WCOA AM Radio, Pensacola, FL. Interview on Taris Savel’s “Conversations on the Go”
program. Aired July 11 & 12, 2009.

PROFESSIONAL SERVICE

2020-present	North American Antivivisection Society Primate Advisory Panel
2018-present	METI Advisory Council
2017-present	Steering Committee, North American Primate Sanctuary Alliance
2015-2017	Council of Professionals North American Primate Sanctuary Alliance
2013-present	Member Board of Directors, Fauna Foundation, Carignan, Quebec
2008-2010	Faculty Affiliate, Museum of Culture & Environment, Central Washington University. Ellensburg, WA
2007-present	Secretary, Board of Directors, Animal Welfare Institute, Washington, DC.
2007	McNair, Advisory Board, Central Washington University, Ellensburg, WA.
2007	Chairperson, Chimpanzee Care Committee, Chimpanzee Sanctuary Northwest, Cle Elum, WA
2003-2007.	Member, Board of Directors, Chimpanzee Sanctuary Northwest, Cle Elum, WA
1999-2013	Member, Advisory Board, Fauna Foundation, Chambly, Quebec, Canada
1999-present.	Member, Secretary, Board of Directors, Friends of Washoe, Ellensburg, WA
1997-2000	Member, Scientific Advisory Board, National Chimpanzee Sanctuary

COMMUNITY SERVICE

2008-2009	4H Leader, Kittitas County Extension, Ellensburg, WA
2005-2006	Member, Board of Directors, Friends of the Roslyn Library, Roslyn, WA
2003-2005	Member, Roslyn Historic and Preservation Commission, Roslyn, WA

2005-2008 Speaker, Expanding Your Horizons. A hands-on exploration of careers for women in math, science, and technology for 5th through 9th grade girls.
Periodically Speaker, Roslyn Library Armchair Traveler Speaker Series.

PROFESSIONAL MEMBERSHIP

Sigma Xi
Phi Kappa Phi

STUDENT MENTORSHIPS

Masters Thesis Committee Chair:

Lopez, Naylea. The Influence of Behaviorally Matched Play Gestures on the Duration Of Social Play Bouts in Chimpanzees (*Pan troglodytes*). June, 2023.
Ratliff, Caroline. The Use of Gesture Forms Within Sequence in Free-living Chimpanzees (*Pan troglodytes schweinfurthii*) in Gombe National Park, Tanzania. June, 2022.
Salak, Robin. A Comparison of Chimpanzee Wound Rates Before and During Covid-19 Zoo Closures. May, 2022.
Patton, Emily. Chimpanzee Early Life Experiences and Responses to Caregivers. July, 2020.
Coffman, Grace, The Effect of Sound on Captive Chimpanzees. May, 2019.
Sullins, Kaeley, Effect of Group Size on Activity Budgets in Two Captive Chimpanzees. February 2019.
Dombrausky, Kailie, Sign Modulation by Chimpanzees to Produce Interrogatives. November, 2018.
Stolar, Lillian, Caregiver Use of Monkey Behaviors in Interactions, February, 2018.
McDonald, Katherine, Chimpanzee Nighttime Behavior, December, 2017
Soubeia, Holly, Chimpanzee Use of Captive Space, March 2017.
Casti, Alexandra, Chimpanzee Reaction to Stimulus Figures in Drawings, December, 2016.
Emge, Whitney, Effects of Positive Reinforcement Training on Chimpanzee Behavior, June, 2015.
Keenan, Susan, Effects of Conversational Partner in Conversations with Chimpanzees, April, 2105
Stafford, RyAnn, Chimpanzee to Chimpanzee Signing, March, 2015
Julie Reveles, Memory in Recording of Chimpanzee Data, June, 2014
Amanda Carner, Gesture Sequence in Captive Orangutans (*Pongo Pygmaeus*). June, 2014
Schulz, Savannah, Directed Scratch as a Referential Gesture in Captive Chimpanzees, June 2014.
Davis, Amanda, Effects of Conversational Partner Familiarity in Deaf Humans (*Homo sapiens*), July, 2012.
Leeds, Charles Austin, The Communicative Function of Five Signing Chimpanzees (*Pan troglodytes*), June, 2012.
Sorenson, Hilaree, Environmental Enrichment for Captive Chacma Baboons (*Papio ursinus*) at the Centre for Animal Rehabilitation & Education (CARE), June, 2012.
Campion, Tracy, Use of Gesture Sequences in Free-Living Chimpanzee (*Pan troglodytes schweinfurthii*) Play in Gombe National Park, Tanzania, March, 2012.
Bismanovsky, Daniella, Chimpanzee (*Pan troglodytes*) Responses to Visitors Using Chimpanzee-Friendly Behaviors, October, 2011.
Leake, Madeleine, Topic Maintenance in Chimpanzee's Conversations. June, 2011.
Zager, Lindsay, Visitor Effect in Zoo-Living Chimpanzees. June, 2011.
Metzler, Deborah, Vocabulary Growth in Adult Cross-Fostered Chimpanzees. March, 2011.
Robin Potosky, Use of Modulation in Response to Requests for Clarification in Chimpanzees. July, 2010.
Stadtner, Gina. The Effect of Reciprocal Chimpanzee (*Pan troglodytes*) Behavior by Caregivers. December, 2009.

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- Buckner, Jacquelyne. The Behavioral Effects of the Use of Chimpanzee-Specific (Pan troglodytes) Behaviors and Vocalizations by Human Caregivers. November, 2009.
- Martinsen, Jessica. Sorting Chimpanzee Drawings Based on Similarity of Form. November, 2007.
- Marburg, Trijntje. A Comparison of Intragroup Greeting and Reassurance Behaviors Across Chimpanzee (*Pan troglodytes*) Social Groups in American and African Sanctuaries. June, 2007.
- McCarthy, Maureen. Use of Gesture Sequences in Captive Chimpanzee (*Pan troglodytes*) Play. May, 2007.
- Keyser, Jennifer. Communicative Role of Play Behaviors in Captive Chimpanzee Play. March, 2007.
- Gallucci, Julia. Chimpanzee Threat Gestures: Community-Level Differences. November, 2006.
- Shiau, Jen-shiuan. Chimpanzee Use of Modulation in Response to Question. November, 2005.
- Hartel, Jessica. Effects of Familiarity and Use of American Sign Language (ASL) on Chimpanzee (*Pan troglodytes*) Conversational Behavior. November, 2005.
- Egan, Tennyson. Chimpanzees Exhibit Imaginary Play. July, 2005.

Masters Thesis Committee Member:

University of Montreal:

- Co-director. de Jeans, Lucile Adaptation in care: Practical Applications in the Fauna Foundation. (L'adaptation dans le «care»: Applications pratiques au sein de la fondation Fauna). August, 2022.

Central Washington University:

- Holm, Josefine Vestergaard, Single and pair housed chacma baboons' response to caregiver use of species-specific behavior. May, 2018.
- Heggs, Laura, The Influence of a Novel Outdoor Environment on the Behavior of Captive Chimpanzees (*Pan troglodytes*) in a Sanctuary Setting, July, 2012.
- Enlow, Grace. Vocalizations and Pair-Bonding Behaviors in Bornean White-Bearded Gibbon in Sabangau National Park, Indonesia. July, 2010.
- Tierney, Deborah. Communicative Competence in Four Captive Chimpanzees as Indicated by Responses to Questions Versus Statements. June, 2005.
- Reider, Shannon. Community Level Differences in the Use of Grooming Gestures. June, 2004.
- Bowman, Holly. Interactions Between Chimpanzees and Their Human Caregivers in Captive Settings: The Effects of Gestural Communication on Reciprocity. May, 2003.
- Sloan, Anna. Bilingual Conversations in Chimpanzees. May, 2002.
- Caparaso, Kimberly. Behaviors used in chimpanzee to chimpanzee sign initiated interactions. March 2002.
- Daspit, Lesley. Folkeology of Bofi Farmers and Foragers: Values, Knowledge and Information Pathways. May, 2001.
- Waters, Gabriel. Sympathetic Mouth Movements Accompanying Fine Motor Movements in Five Captive Chimpanzees. July, 2000.
- King, Bonita. The Effect of Familiarity on Social Interactions Between Captive Chimpanzees (*Pan troglodytes*) and Humans (*Homo sapiens*). August, 1999.
- Sanz, Crickette. Fecal Testosterone and Corticosterone Levels and Behavioral Correlates in a Socially Stable Group of Five Captive Chimpanzees (*Pan troglodytes*). March, 1999.

Current Graduate Students:

Edward deBree, Jenna Skinner, Courtney Garzone, Amanda Pauli, and Katelyn Seymore.

Undergraduate Mentorship & Internship:

Madison Arlt, Central Washington University. 2022
Lucile deJeans, University of Montreal. 2021
Anne Bastien, Concordia University. 2021
Riley Fisher, University of Windsor. 2021
Chloe Delidimos, Vanier College. 2021
Ben Bodager, University of Vermont. 2020
Machara Renz, University of Vermont. 2020
Mary Fordham, University of Vermont. 2020
Emilie Riche, University of Montreal. 2019-2020
Emily Collins, Concordia University. 2019-2021
Emma Burbidge, McGill University. 2019
Rachel Van Vliet, McGill University. 2017-2018
Simon L'Allier, University of Montreal. 2016-2018
Charlotte Hings, McGill University. 2015-2016
Magdalena Kicza, McGill University. 2016
Emily Thompson McGill University. 2015
Bianca de Filippis. McGill University. 2015
Alexia Armato. McGill University. 2015-2017
Glee Larson, STEP. 2010. Douglas Honors College Thesis. 2011-2012
Julie Reveles, McNair Scholar. 2009-2010.
Cristy Rasmussen, McNair Scholar. 2008-2010
Jason Wallin, College of the Sciences Undergraduate Honor Thesis Award, Co-Mentor. 2007

Faculty Mentored Presentations:

Patton, E., Garzone, C., Skinner, J., & Rich, E. (2020, May). Persistence of Lexicon in Signing Chimpanzees. Poster presented at the Central Washington University Symposium on University Research and Creative Expression, Ellensburg, WA.

Stolar, L. (2017, May). Response of three species of monkeys to caregiver use of species-specific behaviors. Paper presented at the Central Washington University Symposium on University Research and Creative Expression, Ellensburg, WA.

Cole, M., & Herigstad, T. (2010, May). Daily Arousal Levels' Effect on a Chimpanzee's Categorical Sign Usage. Paper presented at the Central Washington University Symposium on University Research and Creative Expression, Ellensburg, WA.

Gibbon, J., Leake, M., & Potosky, R. (2010, May). Use of Holiday Related Signs by a Cross-Fostered Chimpanzee. Paper presented at the Central Washington University Symposium on University Research and Creative Expression, Ellensburg, WA.

Potosky, R. (2010, May). Use of Modulation in Response to Requests for Clarification in Chimpanzees. Paper presented at the Central Washington University Symposium on University Research and Creative Expression, Ellensburg, WA.

Wallin, J., (2010, May). A Descriptive Analysis of Chimpanzees' Signed Conversations. Poster presented at the Central Washington University Symposium on University Research and Creative Expression, Ellensburg, WA.

Zager, L., Bismanovsky, D., & Pewitt, R. (2010, May). Recent Patterns of Language in Adult Chimpanzees Using American Sign Language. Paper presented at the Central Washington University Symposium on University Research and Creative Expression, Ellensburg, WA.

Blodgett, D., Stadtner, G., Metzler, D., Wallin, J., & Potosky, R. (2008, May). Individual- and Task-Variation in Handedness in Five Cross-Fostered Chimpanzees. Poster presented at the Central Washington University Symposium on University Research and Creative Expression, Ellensburg, WA.

AD HOC JOURNAL REVIEWER

Primates
Scientific Reports
Interaction Studies
Journal of Experimental Child Psychology
Animal Behavior
Journal Human Evolution
Zoo Biology
Journal of Comparative Psychology
Journal of Advanced Research
Journal of Animal Ethics
International Research Journal of Arts & Social Sciences
IEEE Spectrum
Journal of Applied Animal Welfare
Royal Society Open Science
Integrative Zoology
Mammalia
Ecologies
Animals

OTHER REVIEWER

Society for Research in Child Development
Wadsworth Cernage Publishers, Ottenheimer, H. *The Anthropology of Language*
Rocky Mt. Psychological Association
Biotechnology and Biological Sciences Research Council, UK
National Institute of Health, Mail Reviewer
John D. & Catherine T. MacArthur Foundation
Protolanguage Conference Scientific Committee 2015
Chirp Magazine
Integrative Zoology
Animals

AWARDS & RECOGNITION

Sigma Xi Distinguished Lecturer 2013-2015
The 4th International SAGA Symposium. Young Researchers Program for Foreigners Award.
1999

EXHIBIT B

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List of References

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- Boyer, P. (2008) Evolutionary economics of mental time travel? *Trends in Cognitive Sciences* 12: 219-224
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- Case, L., Yanagi, A., Loeser, E., & Fultz, A. (2015). Human-animal relationships: The use of species-typical food calls and chimpanzee (*Pan troglodytes*) names: Welfare-oriented tools to manage sanctuary chimpanzees. *Animal Behavior and Cognition*, 2(3), 254-266.
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EXHIBIT 7

RECEIVED by MCOA 4/23/2024 9:03:40 AM

AFFIDAVIT OF JAKE DAVIS

If duly sworn, I will testify:

1. My name is Jake Davis. I graduated with a Bachelor of Arts in Film and Media Studies from Emory University in 2014. I received a J.D. with an emphasis in Civil Litigation from Loyola Marymount University in 2019. Since October 2020, I have worked for the Nonhuman Rights Project, Inc. as a Staff Attorney and since October 2022, I have worked as a judicial law clerk for the Honorable Robert B. Allison of Montana's 11th Judicial District Court.
2. I submit this affidavit in support of the Nonhuman Rights Project, Inc.'s complaint for a writ of habeas corpus on behalf of the captive chimpanzees at the DeYoung Family Zoo.
3. On August 21, 2023, I purchased an entrance ticket to the DeYoung Family Zoo ("DFZ") and took a self-guided tour of the zoo. After I completed my self-guided tour, I returned to the parking. From the parking lot, I observed and used my cell phone to capture videos and photographs of two enclosures and several chimpanzees. The 17 video clips and 8 photographs in the following Google Drive folder are true and accurate representations of the ones I took on the date I visited the zoo: <https://rb.gy/57pbv>. Those video clips are also contained in a thumb drive, labeled **Exhibit A**, and those photographs are attached under **Exhibit B**.
4. One enclosure (Enclosure 1) is a windowless, barn-like industrial green building. The other enclosure (Enclosure 2) consists of a bottom half and a top half: the bottom half has no visible openings and appears to be constructed of metal or concrete; the top half is a cage made of chain-linked fencing, allowing visual access to and from the outside, and contains a few ropes for climbing. These enclosures, adjacent to the entrance of the zoo, are connected by a small, enclosed walkway. *See* Chimp_Housing Photos 1-6.

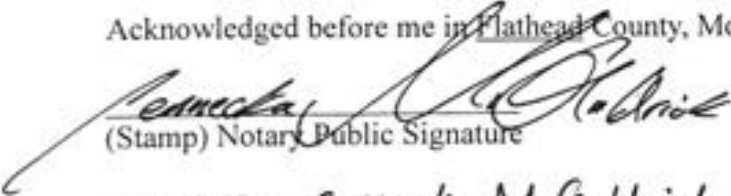
5. During my viewing of the two enclosures, I observed DFZ employees move various food products in and out of Enclosure 1.
6. A DFZ employee told me that the enclosures housed "some of the monkeys" as well as other species during specific times of the year, like an "alligator" during the winter months.
7. I saw three chimpanzees in Enclosure 2 (*see* Chimp Photo 1 & 2) and heard at least one chimpanzee screaming and banging on the walls of another portion of the structure (*see* Video 12). At one point, a chimpanzee in Enclosure 2 went to the enclosed walkway and began rocking back and forth for over a minute and appeared to be trying to open the access point to Enclosure 1, leading me to believe that there may be chimpanzees housed in Enclosure 1 as well. *See* Video 2.
8. There was much noise emitted from one or both of the two enclosures. For instance, a chimpanzee in Enclosure 2 grabbed the chain-link fence and shook it violently. *See* Video 1. There were also moments of silence where one chimpanzee positioned in the corner of Enclosure 2 appeared to observe me for several minutes. *See* Videos 3-7, 9, 10, 11, and 17. When I lowered my cell phone, the chimpanzee would move to a different space in the enclosure seemingly no longer interested in watching me.

FURTHER, AFFIANT SAYS NOT.

Dated: 11-20-23


Jake Davis

Acknowledged before me in Flathead County, Montana, on 11/20 2023 by Jake Davis


(Stamp) Notary Public Signature

Notary's Name Cennecka McGoldrick

Flathead County, Montana

My Commission expires: 12/01/26

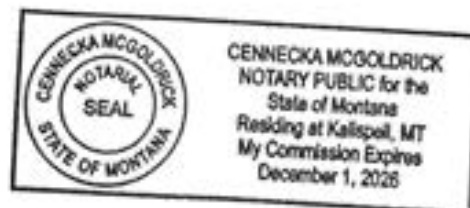


EXHIBIT B

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