ANDERSON AFFIDAVIT

STATE OF NEW YORK
SUPREME COURT COUNTY OF SUFFOLK

In the Matter of a Proceeding under Article 70 of the CPLR for a Writ of Habeas Corpus, THE NONHUMAN RIGHTS PROJECT, INC., on behalf of HERCULES and LEO, Petitioners, v. SAMUEL L. STANLEY JR., M.D., as President of State University of New York at Stony Brook a/k/a Stony Brook University and STATE UNIVERSITY OF NEW YORK AT STONY BROOK a/k/a STONY BROOK UNIVERSITY, Respondents.	**AFFIDAVIT OF JAMES R. ANDERSON** Index No.:

UNITED KINGDOM)
)
COUNTRY OF SCOTLAND) ss:
)
CITY OF STIRLING)

James R. Anderson being duly sworn, deposes and says:

Introduction and Qualifications

1. My name is James R. Anderson. I live and work in Stirling, Scotland. I graduated with a Bachelor of Science in Psychology from the University of Stirling in 1977, and a Ph.D. in Psychology from the University of Stirling in 1982.

2. I submit this affidavit in support of Petitioners The Nonhuman Rights Project, Inc. ("NhRP"), on behalf of Hercules and Leo, for a writ of habeas corpus. I am a non-party to this proceeding.

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3. I am a faculty member at the University of Stirling. My current position is Reader in Psychology, in the Division of Natural Sciences, University of Stirling. Since 1995, I have taught Introductory Psychology, Animal Behaviour, and Developmental and Comparative Psychology at the University of Stirling. I have also taught courses on Animal Behaviour and Animal Welfare at the Universities of Edinburgh, Strasbourg (France), and Kyoto (Japan).

4. Since 1998, I have been a regular Visiting Professor and Research Fellow at Kyoto University in Kyoto, Japan. With my graduate students I have collaborated with Japanese colleagues on behavioural studies of chimpanzees in captivity and in the wild (in Guinea, West Africa).

5. Since 1987, I have been a scientific advisor to the Primatology Center of Strasbourg University. I have served on the editorial boards of the following scientific journals: *Journal of Comparative Psychology* (1991-1994), *Primatologie* (1997-2007), *Current Psychology Letters: Brain, Behaviour & Cognition* (1998-2011), *Primates* (2002-present) and *American Journal of Primatology* (2006-present). I have conducted peer reviews of more than 500 manuscripts submitted to journals in psychology, biology, anthropology, and general science.

6. I am a specialist in the behaviour of nonhuman primates, with particular focus on learning and social cognition. My behavioural studies have been on multiple species of prosimians, New and Old World monkeys, and apes. In addition to work on laboratory-, park- and zoo-housed primates I have done field research on baboons and chimpanzees in West Africa, and macaques in southern India. Distinctions and awards include nomination for the Bronze Medal, Société pour le Progrès de l'Homme, and Auxiliary Award, O.P.A.L. (Ouevre pour la Protection des Animaux de Laboratoire).

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7. I have co-edited 4 volumes: *Primates: Recherches Actuelles* (1990, Masson, Paris), and *Current Primatology*, Vols. 1, 2 and 3 (1994, Université Louis Pasteur, Strasbourg).

8. My publications include almost 200 articles on learning, behaviour, ecology, and welfare of prosimians, monkeys and apes, including over 100 peer-reviewed empirical and review articles in scientific journals including: *American Journal of Primatology, Animal Behaviour, Animal Cognition, Animal Welfare, Cognition, Current Biology, Folia Primatologica, Journal of Comparative Psychology, Nature Communications, and PLoS Biology*. I have also written numerous chapters for edited volumes covering a range of topics ranging from animal husbandry and welfare to consciousness and cognition. Specific topics include: communication, abnormal behaviour, environmental enrichment, husbandry, attachment formation, correlates of social dominance, responses to mirror-image stimulation, self-awareness, tool-use, social organisation, sleep, learning and memory, effects of ageing, behavioral inhibition and self-control, and third-party social evaluation in primates. I have made several documentary films about primate behaviour, and several of my research projects have received international media attention (radio, television, printed press, internet).

9. I have given invited lectures or participated in symposia in psychology and primatology in the following countries: Belgium, England, France, Germany, Italy, Japan, Netherlands, Scotland, Switzerland, and USA.

Basis for Opinions

10. The opinions in this Affidavit are based on my own work as well as accumulated knowledge from 35 years of hands-on research and teaching about the behaviour of nonhuman primates; this includes my knowledge of peer-reviewed literature about primatology published in

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respected journals, periodicals and scholarly books. A full Reference list of peer-reviewed literature cited herein is annexed hereto as **"Exhibit A"**.

Opinions

11. The close evolutionary relationship between chimpanzees, bonobos and humans is evident not only in terms of physical structure but also in behaviour and mental processes. No other species comes so close to humans in self-awareness and language abilities, and in diversity of behaviours such as tool-use, gestural communication, social learning, and reactions to death.

12. 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).

13. 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).

14. 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

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& 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 labour. 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).

15. Chimpanzees are adept at understanding other individuals' visual perspectives and knowledge states. For instance, when placed in a situation where they need to compete for food placed at various locations around visual barriers, subordinate chimpanzees will only approach food that they infer dominant chimpanzees cannot see (Hare, Call & Tomasello, 2001). This shows they can take the visual perspective of the chimpanzee competitor, as they understand that what they themselves see is not the same thing as what their competitor sees. Chimpanzees also exhibit referential and intentional communication. That is, they point and vocalize when they want humans and conspecifics to notice something and will adjust their gesturing to insure they are noticed (Leavens, Hopkins & Thomas, 2004; Roberts, Roberts, Vick & Buchanan-Smith, 2013; Vick, Roberts & Menzel, in press). In tasks requiring cooperation, chimpanzees recruit partners that they know to be the most skilled (Melis, Hare & Tomasello, 2006), and they take turns as appropriate when requesting and giving help to a partner (Savage-

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Rumbaugh, Rumbaugh & Boysen, 1978; Yamamoto, Humle & Tanaka, 2009). Chimpanzees also communicate intentionally when they want to inform naïve chimpanzees about something, e.g., a predator. When wild chimpanzees were presented with a model of a python, the alarm calls they made were socially directed to friends who were just arriving on the scene, associated with looking at who had visual access to the snake and who did not, and stopped calling once the others were far enough to be safe from the predator. These behaviors demonstrate that chimpanzees communicate intentionally and purposefully. (Schel, Townsend, Machanda, Zuberbhüler & Slocombe, 2013).

16. Another way chimpanzees have demonstrated their cognitive complexity is through their use of multi-object "tool-kits" (Boesch, Head & Robbins, 2009). A "tool-kit" is two or more tools used in an obligate sequence to achieve a single goal; their use indicates mental representation of a sequence of acts aimed at achieving a future desired outcome. Evidence also exists for long-term planning of tool use. An example is the transport of stones to different locations to be used as hammers to crack open nuts (Boesch & Boesch, 1984), which requires the chimpanzees to keep in mind a future use for the stone. These findings are consistent with those of Osvath (2009) who reported on a zoo-housed adult male chimpanzee who stashed stones to be used as weapons in the day or days ahead (Osvath, 2009). In this case, the fact that the weapons were stored so that human caretakers were unlikely to discover them reinforces the fact that chimpanzees understand others' knowledge states and intentions.

17. Among nonhuman primates, chimpanzees are the best imitators. New-born chimpanzees share with human new-borns the ability to selectively imitate facial expressions (Myowa-Yamakoshi, Tomonaga, Tanaka & Matsuzawa, 2004; Bard, 2007), and more mature individuals can accurately reproduce more complex motor sequences enacted by a model

(Horner & Whiten, 2005; Whiten, McGuigan, Marshall-Pescini & Hopper, 2009); they may even abandon their spontaneously developed way of using a tool and switch to a more efficient one that they have seen a companion using (Yamamoto, Humle & Tanaka, 2013). Imitation can occur after an extended delay between exposure to a model and opportunity to reproduce the observed act (Bering, Bjorklund & Ragan, 2000), and after observing a demonstration on video (Price, Lambeth, Schapiro & Whiten, 2009). Imitation is a form of social learning that is considered important for cultural evolution.

18. Another form of imitation is contagious yawning. When tested in similar experimental situations using video stimuli, chimpanzees show contagious yawning in much the same way as humans do (Anderson, Myowa-Yamakoshi & Matsuzawa, 2004). The finding that chimpanzees yawn more frequently in response to seeing familiar individuals yawning compared to unfamiliar others provides support for a link between contagious yawning and empathy (Anderson & Matsuzawa, 2006; Campbell & de Waal, 2011).

19. 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 behaviours 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

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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.

J.R. Anderson

James R. Anderson

Sworn to before me
this 19th day of November, 2013

Notary Public

APOSTILLE
(Convention de La Haye du 5 octobre 1961)

1. Country: Pays/País	United Kingdom of Great Britain and Northern Ireland
This public document Le présent acte public / El presente documento público	
2. Has been signed by a été signé par ha sido firmado por	Peter Pratt
3. Acting in the capacity of agissant en qualité de quien actúa en calidad de	Notary Public
4. Bears the seal/stamp of est revêtu du sceau / timbre de y está revestido del sello / timbre de	The Said Notary Public

Certified
Attesté / Certificado

5. at á / en: London	**6. the** le / el día: 21 November 2013
7. by par / por	Her Majesty's Principal Secretary of State for Foreign and Commonwealth Affairs
8. Number sous no / bajo el número	J855548
9. Seal / stamp: Sceau / timbre: Sello / timbre:	**10. Signature:** J Morrison Signature: Firma:

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If this document is to be used in a country which is not party to the Hague Convention of 5th October 1961, it should be presented to the consular section of the mission representing that country.

EXHIBIT A

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Peter Lutz Peter
Nancy Pelis

J. R. Anderson

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CERTIFICATE OF CONFORMITY

I, Peter William David Alexander Pratt, of 10 Albert Place, Stirling, FK8 2QL, a Solicitor (and Attorney) duly licensed to practice law in Scotland, affirm under penalty of perjury and certify that, I witnessed the signature of Professor James R Anderson as applied to the Affidavit annexed to this Certificate, which was signed and dated on 20 November, 2013. The manner in which same was signed was, and is, in accordance with, and conforms to, the Laws for taking oaths and acknowledgments, in Scotland.

Dated: 20 November, 2013

Peter William David Alexander Pratt