STATE OF NEW YORK
SUPREME COURT COUNTY OF FULTON

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 TOMMY, Petitioners, v. PATRICK C. LAVERY, individually and as an officer of Circle L Trailer Sales, Inc., DIANE LAVERY, and CIRCLE L TRAILER SALES, INC., Respondents.	**AFFIDAVIT OF JAMES KING** Index No.:

STATE OF ARIZONA)
) ss:
COUNTY OF PIMA)

James King being duly sworn, deposes and says:

Introduction and Qualifications

1. My name is James King. I received a B.A. from the University of Arizona in 1959, a M.S. from the University of Wisconsin in 1961, and a Ph.D in Psychology from the University of Wisconsin in 1963. I work and reside in Tucson, Arizona.

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

3. I am currently an Emeritus Professor of Psychology at the University of Arizona where I have been a member of the faculty for 43 years. I have regularly taught courses in animal behavior including *Primate Behavior*, *Animal Behavior*, *Animal Learning*, and seminars

on *Evolution and Animal Behavior* and *Biopsychology*. I have directed 14 dissertations and 18 master's theses since 1970 on various topics related to primatology.

4. I have been awarded research grants for the study of primates by NASA, the U.S. Army Research Institute, and the National Institutes of Mental Health, among other organizations.

5. I served as an associate editor of the Journal of Comparative Psychology from 1995-1999. From 1959-1963, I served as a research assistant at the University of Wisconsin Primate Laboratory. I also worked at the Yerkes Regional Primate Research from 1969-1970 as a PHS Special Fellowship.

6. My area of specialization is personality structure and psychological well-being in chimpanzees and other great apes, which I have studied for the past 15 years. I have also studied complex learning and concept formation in squirrel monkeys, capuchin monkeys, rhesus monkeys, orangutans, and chimpanzees. My research has mainly been conducted on captive monkeys and apes at the University of Arizona. I have also done research at the Yerkes Regional Primate Center in Atlanta and at the University of Stirling in Scotland.

7. I have authored two edited books on primate behavior and personality: *Primate Behavior* (1982, New York: Academic Press), and *Personality and Temperament in Non Human Primates* (2011, New York: Springer).

8. I have published over 100 articles on chimpanzees, squirrel monkeys, capuchin monkeys, rhesus monkeys, and orangutans. These articles are published in many of the world's most-cited peer-reviewed scientific journals, including: *Journal of Comparative and Physiological Psychology, Animal Behaviour, American Journal of Primatology, the International Journal of Primatology, Journal of Behavioral Genetics, the New England Journal*

of Medicine. Journal of Genetic Psychology, Animal Perspectives, Animal Learning and Behavior, and *Ecology.* I have also been published in the *Encyclopaedia of Psychology and Neuroscience.* These publications covered topics on the behavior, ecology, welfare, and conservation of primates. Specific topics of these publications include: discrimination learning, concept formation, self stimulation, learning behavior, snake avoidance, sensory capacities, sameness-difference learning-set, learning capacities, mother-child relationships, social behavior sequences, licking patterns, preference differences, chimpanzee personality, chimpanzee happiness, chimpanzee health, imitation and emulation, age and sex effects in human and chimpanzee personality, determinants of longevity, heritability of personality factors, subjective well-being, genetic variation, personality development.

9. I have given numerous presentations of my research in primatology in the United Sates, Scotland, France, Madagascar and Indonesia. 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, research and field work, as well as my review of peer-reviewed literature. A full reference list of peer-reviewed literature cited herein is annexed hereto as **"Exhibit B"**. In this affidavit I will focus upon the evidence for three relevant characteristics in chimpanzees in the general domains of: (A) autonomy, (B) personality, and (C) emotions.

Opinions

A. Autonomy

11. Autonomous behavior is defined as behavior that reflects a choice and is not based on reflexes, innate behaviors or on any conventional categories of learning such as

conditioning, discrimination learning, or concept formation. Instead, autonomous behavior implies that the individual is directing the behavior based on some non-observable internal cognitive process. We cannot directly observe these internal processes in other people or in nonhumans but we can find evidence for them in observable behavior. Evidence for autonomous behavior in humans is not seriously disputed. In chimpanzees the behavioral evidence for autonomy is becoming increasingly conclusive as findings accumulate on their creativity and planning, all characteristics of autonomy.

12. The presence of autonomy in chimpanzees, our closest relative, is consistent with phylogenetic parsimony. That is, the simplest explanation for behaviors in chimpanzees that look autonomous is that they are based on similar psychological capacities as in humans. Biologists dating back to Charles Darwin have emphasized the slow, gradual changes in evolutionary development. Therefore, the presence of any complex cognitive-behavioral process in humans implies the likelihood of a similar but possibly more rudimentary process in apes. These similarities are not only found in the domain of autonomy but also in that of personality and emotion. My research shows the remarkable similarity between chimpanzees and humans in the structure of personality and subjective well-being (or happiness).

B. Phylogenetic continuity of personality

13. The research on chimpanzee personality by my colleagues and I has been based mainly on personality ratings of workers at zoos in the United States, Asia, and Europe. The zoo workers completed questionnaires asking for ratings of a wide variety of personality traits for each individual chimpanzee. Examples of traits are *timid, depressed, gentle, and cautious*. The questionnaires were similar to those used to assess human personality. Some of our major findings are listed below.

14. *Factor structure.* Statistical analysis of the correlations between items by means of factor analysis indicated that *the basic factors or dimensions characterizing the personality ratings of chimpanzees are remarkably similar to the dimensions of human personality* (King and Figueredo, 1997; Weiss, King, and Perkins, 2006). In addition, there is excellent between-rater reliability and the personality factors are stable over time (King, Weiss, and Sisco, 2008). That is, the identified personality traits are consistent within individual chimpanzees and are reliably observed by different people.

15. *Personality predicts behavior.* Personality factors of chimpanzees are correlated with directly observable behaviors in a way consistent with the meaning of the factors (Pederson, King, and Landau, 2005; Uher and Asendorp, 2008). This finding shows that the personality ratings of chimpanzees have similar meaning, in terms of personality structure, to that in humans.

16. *Personality is heritable.* One of the recurring criticisms of ape personality ratings is that they are anthropomorphic projections of the raters' own personality or represent projections about correlations of human personality traits onto the apes. A demonstration that ape personality factors are significantly heritable would contradict such claims of anthropomorphic bias. We have shown that personality is heritable in chimpanzees (Weiss, King, and Enns; 2002). That is, personality traits in chimpanzees are partly attributable to genetic relationships and, therefore, as in humans, include traits shared by family members.

17. *Personality is independent of raters' language.* The factor structure of chimpanzee personality was not significantly altered when ratings were made by Japanese speakers using a translation of our standard form into Japanese (Weiss et al., 2009). This finding speaks to the universality of the personality ratings of chimpanzees.

18. *Personality is independent of setting.* Two of our studies have shown that the personality factor structure of chimpanzees is largely constant across three different habitats: laboratory, zoological park and wild (King, Weiss, and Farmer, 2005; Weiss, King, and Hopkins, 2007).

19. *Personality changes over time mimic changes in humans.* Human personality differences are now almost uniformly assumed to be best described by five factors: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness (Digman, 1996). Across multiple cultures levels of Extraversion, Neuroticism, and Openness decrease with age while levels of Conscientiousness and Agreeableness increase (McCrae, Costa, et al., 2004). We have found that this age-related mellowing effect also occurs in chimpanzees (King, Weiss, and Sisco, 2008).

20. *Personality is not an effect of rater biases.* An issue that has overhung personality ratings of nonhumans is whether raters' expectations about the correlations between items will influence their ratings. We recently published a paper (Weiss, Inoue-Murayama, and King, 2011), based on a statistical analysis showing that factors based on between-rater differences did not resemble factors based on between-animal differences. This was the most direct evidence to date that our ape personality ratings were not tainted by anthropomorphic expectations.

21. Altogether, our extensive work on personality in chimpanzees is robust, shows a very similar combination of traits to that of humans, and is subject to changes over time similar to that observed in humans.

C. Emotions – Chimpanzees can experience happiness

22. In the past, research on the psychological well-being of animals was focused on the negative pole of the well-being dimension and, therefore, negative emotional experiences. High scores were indicated by a lack of pathological or maladaptive phenomena including behaviors (King and Weiss, 2011). Our questionnaire was directed towards the high end of the well-being dimension, positive feelings, and was based on questions similar to those used for humans. We have used the term "subjective well-being" (SWB) as a stand-in for the term happiness in order to be consistent with the terminology in human personality research. For example, one item asked raters to indicate on a seven-point scale how much the target subject enjoyed interactions with other chimpanzees. We have found:

23. *SWB is reliable and stable over time.* Interrater reliabilities for SWB ratings of chimpanzees are reliable and stable over time (King and Landau, 2003; Weiss, King and Perkins, 2006).

24. *SWB is heritable.* SWB is heritable in chimpanzees (Weiss, King, and Enns, 2002).

25. *SWB is related to personality.* Chimpanzee personality has a high positive correlation with the Extraversion and a high negative correlation with Neuroticism (King and Landau, 2005). This pattern is also present in humans.

26. *SWB undergoes a midlife dip.* A well-documented phenomenon in humans is a decrease in SWB from young adulthood to middle age. After middle age SWB then increases up to old age. We have recently shown that a similar phenomenon occurs in chimpanzees and a low point at about 30 years (Weiss, King, Inoue-Murayama, et al., 2012). This age is comparable with the low point in humans when the difference in human and chimpanzee is taken into

consideration. This "midlife crisis" occurs in chimpanzees rated with English versions of the questionnaire as well as chimpanzees rated on a Japanese version.

27. *SWB predicts longevity.* A large number of human studies have shown that longevity is positively associated with SWB. Similarly, we have shown that SWB has a strong positive effect on longevity of zoo-housed orangutans (Weiss, Adams, & King, 2011). Future studies will include the very closely related chimpanzees and gorillas.

28. To summarize, just as with personality structure, chimpanzees and humans resemble each other in terms of their ability to experience happiness and the way in which it relates to individual personality.

James King

Sworn to before me
this 21 day of November, 2013

Notary Public

State of Arizona County of Pima
Subscribed and sworn before me on 11/21/13
(Date)
(Notary Signature)

CARLOTA LARSON
NOTARY PUBLIC
PIMA COUNTY, ARIZONA
MY COMM. EXPIRES 09-25-16

STATE OF NEW YORK
SUPREME COURT COUNTY OF FULTON

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STATE OF ARIZONA)
) ss:
COUNTY OF MARICOPA)

1. This Certificate of Conformity is submitted pursuant to New York CPLR 2309(c) and New York Real Property Law § 299-a.

2. I am an attorney duly licensed to practice law in the State of Arizona.

3. I certify that the Affidavit of James King, signed and dated on November 21, 2013, was taken in the manner prescribed by the laws of the State of Arizona.

Dated: this 25th day of November, 2013

Stephanie Nichols-Young
Law Office of Stephanie Nichols-Young
642 N. Third Ave.
Phoenix, AZ 85003

EXHIBIT A

October, 2012

CURRICULUM VITAE
James E. King

PERSONAL

Birthdate: November 16, 1937
Birthplace: Baker, Oregon

EDUCATION

University of Arizona, B.A., 1959
University of Wisconsin, M.S., 1961
University of Wisconsin, Ph.D., 1963

Dissertation: "Transfer Relationships Between Learning-set and Concept Formation in Rhesus Monkeys"

Director: Harry F. Harlow

PROFESSIONAL AND ACADEMIC HISTORY

1976-present	Professor, University of Arizona
1967-1976	Associate Professor, University of Arizona
1969-1970	PHS Special Fellowship, Yerkes Regional Primate Research
1963-1967	Assistant Professor, University of Arizona
1959-1963	Research Assistant, University of Wisconsin Primate Laboratory

GRANTS AND AWARDS

1987-1988	Principal Investigator, NASA Contract, Behavior of Rhesus Monkeys during Spaceflight
1985-1986	Principal Investigator, U.S. Army Research Institute Contract Behavioral Sources of Enkephalin Mediated Enhancement of Complex Learning in Monkeys
1978-1981	Principle Investigator, Arizona Alumni Association Research Grant. Signal Detection
1968-1978	Program Director, NIMH Training Grant. Training in Animal Behavior (MN 11286) Analysis of Radiographic Images
1969-1970	Public Health Service Special Fellowship. Award for 1 year sabbatical at Yerkes Regional Primate Research Ctr, Atlanta, GA (HD 42963)
1964-1966	Principle Investigator, NIMH Research Grant. Comparative Study of Systematically Varied Learning (MN 10246)
2002-2004	Co-Principle Investigator. Development of a health related database for

captive chimpanzees. Katharine M. Scott Foundation.

COMMITTEE MEMBERSHIP

1995-1999 Associate Editor - Journal of Comparative Psychology

COURSES RECENTLY TAUGHT

Psychology 312	Primate Behavior
Psychology 411	Animal Behavior
Psychology 412	Animal Learning
Psychology 417	Invertebrate Behavior Laboratory
Psychology 596	Seminar in Biopsychology

MASTER'S THESES DIRECTED SINCE 1970

Curtis, Willie M. - The effect of deprivation and overtraining on spatial reversal learning.
Fobes, James L. - Hypothesis behavior analysis of discrimination learning involving preferred and avoided stimuli.
Huber, Charlene B. - Snake avoidance and tool using by Capuchin monkeys.
Kendrick, Daryl R. - Effects of Dopamine (L-Dopa) on aggression in squirrel monkeys in a water competition situation.
Lentz, James L. - The application of sequential state theory to the measurement of performance on three delayed-response tasks by Capuchin monkeys.
Murray, Sarah M. - Snake avoidance in feral and laboratory reared squirrel monkeys.
Roney, Lorna. - A multivariate behavior analysis of Female-Female competition among stump-tailed macaques.
Scanlon, J. - Attention in the discrimination learning of Capuchin monkeys.
Smith, H. J. - Effect of contiguity between stimulus and reinforcer on speed of acquisition and transfer of learning set in squirrel monkeys.
Stevens, J.J. - The effects of reward and nonreward on serial discrimination learning Cebus monkeys.
Thomas, E. D. - Sequential state theory: An analysis of signal detection data yielding measurements of observer attention to relevant information.
Medelis, P. J. H. - Weigl oddity learning by Capuchin monkeys.
Neitz, R. - Sucrose preferences in young and aged Squirrel monkeys.
Landau, V. - Dominance and capital behavior in Squirrel monkeys.
Scott, A. - Effects of response bias on learning and memory tasks in squirrel monkeys.
Daly, K. – Confirmatory factor analysis of personality structure in chimpanzees and humans.
Guggenheim, C. – Personality types in chimpanzees.
Sefcek, J. - - Is the concept of psychopathology relevant to the study of chimpanzee personality?

Schneider, S. Social networks in captive chimpanzees: Pretty pictures and problematic analyses..

DISSERTATIONS DIRECTED SINCE 1970

Fobes, J. L. - A theory of signal detection based upon hypothesis analyses.
Huebner, D. K. - Intra- and intersubject behavioral sequences by differentially socialized squirrel monkeys (Samiri sciureus).
Kendrick, D. R. - Effects of differential lighting conditions on delayed response in Capuchin and squirrel monkeys.
Kirkish, P. A. - Behavioral responses to Haldol and Sinemet in squirrel monkeys.
Landau, V. - Development of fishing and food cleaning behaviors in New World Monkeys.
Lentz, J. L. - Determination of attention in short term memory of Capuchin monkeys.
Michels, R. R. - Effects of postural stability and age on behavioral laterality in squirrel monkeys.
Roney, Lorna. - The Hera strategy: Female competition in stump-tailed macaque monkeys.
Scanlon, J. L. - Attentional mediation in the sameness-difference learning of children.
partially covering string arrays on pattern sting performance of Platyrrhine monkeys.
Scott, A. - Monkeys, memories and movements; effect of aging on short term memory of squirrel monkeys.
Smith, H. J. - Social behavior of the coati (Nasua narica) in captivity.
Roney, L. – Female competition in free ranging rhesus monkeys.
Weiss, A. – Personality and environmental determinants of subjective well-being in chimpanzees.
Schneider, S. Love, hatred, and indifference in chimpanzees: Personality, subjective well-being and dyadic-level behavior in captive chimpanzees (*Pan troglodytes*).

PUBLICATIONS

King, J. E. & Harlow, H. F. (1962). Effect of ratio of trial one reward to nonreward on the discrimination learning of macaque monkeys. Journal of Comparative and Physiological Psychology, 55, 872-875.
King, J. E. (1965). Discrimination and reversal learning in the rock squirrel. Perceptual and Motor Skills, 20, 271-276.
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King, J. E., & Witt, E. D. (1966). The learning of patterned strings problems by rock squirrels, Psychonomic Science, 4, 319-320.
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squirrel and rat. Psychonomic Science, 6, 7-8.
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King, J. E., & Fobes, J. L. (1975). Hypothesis analysis of sameness-difference learning-set by capuchin monkeys. Learning and Motivation, 6, 101-113.
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in young and aged squirrel monkeys. Physiology and Behavior, 42, 53-57.
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King, J. E., & Rumbaugh, D. M. (2003). Review of the book *Love at Goon Park: Harry Harlow and the Science of Affection.* New England Journal of Medicine, 348, 670-671.

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