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Certificate of Conformity

I, Peter Coleman Fletcher of Cambridge, England, Notary Public duly authorised admitted and sworn, and practising within the United Kingdom and Northern Ireland do herby certify and affirm under penalty of perjury that I witnessed the signature of Professor William C. McGrew as applied to the Affidavit attached to this Certificate, which was signed and dated on 9th October 2015

I confirm that the manner in which the Certificate was signed was, and is, in accordance with, and conforms to, the Laws for taking oaths and acknowledgements in England.

Peter Coleman Fletcher

Notary Public 09 OCT 2015

PETER C. FLETCHER
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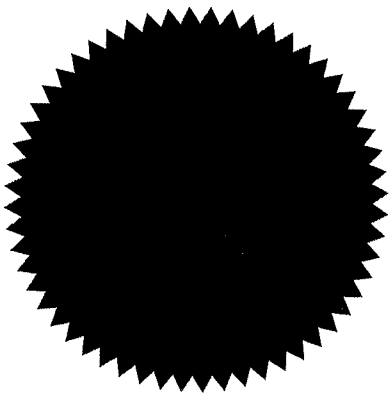
My commission is for life



SUPREME COURT OF THE STATE OF NEW YORK
COUNTY OF NEW YORK

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,

Petitioner,

-against-

PATRICK C. LAVERY, individually and as an officer of Circle L Trailer Sales, Inc., DIANE LAVERY, and CIRCLE L TRAILER SALES, INC.,

Respondents.

SUPPLEMENTAL AFFIDAVIT OF WILLIAM C. MCGREW, Ph.D

Index No.

UNITED KINGDOM)
)
COUNTRY OF ENGLAND) ss:
)
CITY OF Cambridge)

William C. McGrew being duly sworn, deposes and says:

Introduction and Qualifications

1. My name is William C. McGrew. I reside and work in Cambridge, England. I was awarded a D.Phil. in Psychology from the University of Oxford in 1970, a Ph.D. from in Social Anthropology from the University of Stirling (Scotland) in 1990, and a Ph.D in Biological Anthropology from the University of Cambridge in 2009.

2. I submit this affidavit in support of Petitioner, 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 Emeritus Professor of Evolutionary Primatology in the Division of Biological Anthropology, Department of Archaeology and Anthropology, University of Cambridge. Since 1972 I have taught the following courses (in reverse chronological order): Cultural Primatology, Apes as Models for Human Evolution, Primate Socio-Ecology at the University of Cambridge; Behavioral Ecology and Conservation Biology, Human Evolutionary Ecology, Mammalogy, Origins of Human Material Culture, and Socio-Ecology of Primates at Miami University (Ohio), Socio-Ecology of Primates at Earlham College (Indiana), Animal Behaviour, Behavioral Primatology, and Developmental Psychology at University of Stirling.

4. I was elected a Fellow of the Royal Society of Edinburgh in 2003 and the American Association for the Advancement of Science in 2005. 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 have held visiting 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), and Hanse-Wissenschaftskolleg (Delmenhorst, Germany).

5. I have served on the IUCN-SSC Primate Specialist Group, Africa and Great Apes since 2004 and on the Scientific Board, International Primate Protection League since 1977. I served on the Board of Directors of Chimp Haven, Inc. from 1999-2005 and the Council and Executive Committee of the Royal Zoological Society of Scotland in 1975. I have served on the editorial boards of the following scientific journals: *American Journal of Primatology* (1991 - 1999), *Folia Primatologica* (1989 -2009), the *International Journal of Primatology* (1995 - 2000) and *Primates* (1985 - present).

6. My specialization is in the great apes, and especially the study of the behaviour and ecology of chimpanzees. I have done field research on chimpanzees and bonobos from 1972-2012, in six African countries. These studies have spanned the species' range from West Africa (Senegal and Guinea) to Central Africa (Gabon and Congo-Kinshasa) to East Africa (Tanzania and Uganda). I have collected data on wild chimpanzees at more research sites than any other scientist. I have done behavioural research on captive chimpanzees in laboratories, sanctuaries, wildlife parks, and zoological gardens.

7. I have written or co-edited 10 books, seven of which are relevant here, including: *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). Some have been translated into such languages as Italian, Japanese, and Slovenian.

8. I have published 162 articles and book chapters on the behaviour, ecology, welfare, or conservation of monkeys and apes, including more than 100 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, Evolutionary Anthropology, American Journal of Physical Anthropology, Animal Behaviour, Animal Cognition, Current Anthropology, Current Biology, Trends in Cognitive Science, Trends in Ecology and Evolution*, as well as more specialised academic periodicals, 44 chapters in edited book volumes, and the rest in the popular press. These publications have covered 15 species of non-human primates, from common marmoset to chimpanzee and gorilla.

Specific topics of these publications include: culture, tool-use, diet, sexual behaviour, sex differences, birth, predation, parasites, social organisation, ranging, kinship, parental behaviour, environmental enrichment, rehabilitation, food-sharing, mating systems, handedness, seasonality, genetics, bipedality, activity budgets, skeletal structure, psycho-pathology, vegetation ecology, archaeology, alcohol ingestion, and insectivory.

9. I regularly give invited lectures and take part in international symposia in primatology. Over the last 40 years, such speaking engagements have averaged about 4 per year. This does not count many more research talks given at universities or at regional, national or international conferences. These lectures and symposia have taken place in: Austria, Belgium, Canada, England, France, Germany, Guinea, Indonesia, Italy, Japan, Mexico, Portugal, Romania, Russia, Scotland, Singapore, South Africa, Spain, Switzerland, and USA.

10. My Curriculum Vitae sets forth my educational background and experience and is annexed to my original Affidavit, filed herewith.

Basis for Opinions

11. The opinions I state in this Affidavit are based on my professional knowledge, education, training, and 40 years of research and field work with chimpanzees, 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.

Opinions

12. Among its various definitions for 'duty', the *Oxford English Dictionary* gives "behaviour due to a superior", "deference", "obligation", and "the binding force of what is morally right". Similarly, for 'responsibility', the *OED* gives "a charge, trust, or duty, for which one is responsible". It defines 'responsible' as "accountable for one's actions", "having authority or control", and "capable of rational conduct... of fulfilling an obligation or trust".

13. Chimpanzees assume duties and responsibilities. In providing some of the evidence of this, I will concentrate on my speciality, field studies of wild chimpanzees, leaving findings from captive chimpanzees for others to recount.

14. Chimpanzee mothers show a "duty of care" to their offspring that rivals that of humans. As single mothers, they feed, protect, carry, shelter, and train their infants, for an average of 5.5 years, from birth until weaning (Clark 1977). Without this succour, infant chimpanzees die (unless adopted, see below). 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 1986b).

15. Chimpanzee mothers may continue this care, even after the death of an infant. They may carry and safeguard the infant's corpse for days, or even weeks, until it has perished to the point of disintegration (Biro et al., 2010). Moreover, young female chimpanzees practice their future maternal behaviour by using sticks as 'dolls', while young males do not, in a form of symbolic play. (Kahlenberg and Wrangham 2010).

16. Such familial duties are not restricted just to mothers, however. Maternal siblings of both sexes also supplement the mother with similar care-giving behaviours (except for suckling). This preferential treatment endures throughout their lives, for example, adult brothers

may work together in alliance to strive to rise in the community's dominance hierarchy (Riss and Goodall 1977). The two highest-ranking female kinship lineages (matrilines) at Gombe, the longest-studied population of wild chimpanzees, in western Tanzania, are the F and G families. In these families, patterns of familial duties have extended through three generations, that is, grandmothers also participate in the upbringing of their grandchildren. These families also show the highest reproductive success, in terms of offspring survival.

17. Such duties of care extend beyond shared genes (kinship). A chimpanzee infant orphaned by the death of the mother may be adopted by others to whom it is not related. Moreover, these foster parents need not be female, nor even adult. Adopted orphans are more likely to survive, while unadopted orphans below the age of weaning almost always perish (Boesch et al. 2010). Such bonds may last a lifetime, even between unrelated males in adulthood, as expressed in the 'currency' of chimpanzee social life, grooming (Mitani 2009).

18. Duties and responsibilities beyond the family (or lineage) cross over into the realm of the community (or unit-group), which is the basic social unit of chimpanzees. A simple example is territorial defense. Chimpanzee territories are defended collectively, unlike the individual territories of most animals; they must work together (see below) to defend themselves and their resources against their neighbours. Relations with neighbouring communities are hostile, so that stronger communities may displace weaker ones, resulting in loss of resources or reproductive partners (Mitani et al. 2010). Such extreme competition can enact a fatal toll: A single male caught in the border zone by the neighbours may be killed; a single female with infant similarly caught may have her baby killed and eaten by them (Wilson et al. 2014). Xenophobia exacts a cost on outsiders.

19. To maintain territorial integrity, males cooperate regularly to patrol the boundaries of the community's territory (Wilson et al. 2014). If their territory is invaded, they display together against the intruders, or if necessary, attack them. This is a necessary chore. Numbers count, so any individual shirking responsibility lets down the group, in effect. In a border skirmish, a male deserted by comrades may perish. On the other hand, a united group may prevail and win rewards. Such patrols are conducted cautiously and silently; a male who makes noise may give away his colleagues. Even a snapped twig leads to apparently disapproving glances from the others. (I know this because I have unwittingly been guilty of such a misstep, and been on the receiving end of this silent reproach.) 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 (e.g.) access to a receptive female. Somehow, they can resolve the contradictions involved in having conflicting interests in different contexts (Goodall 1986b). This implies mutual recognition of shared responsibilities.

20. Another chimpanzee universal that necessarily entails duties and responsibilities is participation in a hierarchy of social dominance. Male chimpanzees rank-order themselves from alpha (top) to omega (bottom) in linear fashion (Goodall 1986b). The advantages of high rank and the disadvantages of low rank are obvious: More dominant individuals win more resources and mates. So, 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 solitude. And, there are costs as well as benefits to being high-ranking, which low-rankers avoid.

21. One of the costs of alpha status is the duty to exercise 'policing' powers in the community (Goodall 1982). The alpha male's role includes a variety of time- and energy-sapping activities, such as intervening in quarrels or fights between other community members, thus

maintaining community integrity and preventing injury. He oversees the distribution of valuable resources, such as meat, after a successful hunt. (This is not to say that such activities are altruistic, and some males may be less responsible than others, or more self-serving, but these activities do help to maintain the common good.) Finally, there are other, less obvious 'chores' associated with high rank: When crossing roads, high-ranking males lead the way, being vigilant for traffic, and bring up the rear, making sure that others are not left behind (Hockings et al. 2006).

22. Perhaps the most impressive example of collective community action is what sometimes occurs after the death of a community member (Anderson 2011). Others may perform what amounts to a funeral ceremony, or at least a 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 (Piel and Stewart in press) and in captivity (Anderson et al. 2010). This appears to involve the exercise of duty or responsibility as there is no obvious material pay-off to the individuals who join in.

23. Chimpanzees show behaviour that seems lawful and rule-governed. Goodall (1982) cited multiple examples of behavioural regularity that reflected the maintenance of social order: adult males being protective of infants, dominant individuals breaking up fights (policing), incest avoidance between adult kin, possessiveness of other individuals' objects, etc. (Goodall 1986a). Sometimes this takes the form of specific, targeted ostracism of individuals who violate norms, such as a young adult male who disrespected higher-ranking males, who was fatally punished (Nishida et al. 1995).

24. Another indicator of rule-governed social interaction within a group is systematic, long-term reciprocity of favours or benefits among its members. That is, 'you scratch my back, I scratch yours'. A simple form is literally this, that is, like-for-like social grooming, but a more complex form is the exchange of differing goods or services, for example, if I provision you with prized food, such as meat, then at a later point, you will favour me as a mate (Gomes and Boesch 2009). Or, if you support me in 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 (i.e. over years) if participants assume and carry out obligations offered and accepted.

Ape and Human

25. I know of few cross-species examples of duty and responsibility in nature, that is, examples of chimpanzees showing this to humans, although many examples can be found in relationships between captive chimpanzees and humans. Perhaps the best example in the wild is the simplest one: Researchers at Gombe National Park in Tanzania have studied wild chimpanzees for more than 55 years. Tens of thousands of observation hours at close quarters have accumulated over these decades. Most of the chimpanzees studied have spent time with researchers from birth onwards, their whole lives, on a daily basis. Chimpanzees have impressive slashing canine teeth, such that a single bite to a human could cause serious injury, even death. *Yet, not a single instance has occurred of a chimpanzee biting a researcher.* However many times researchers have inadvertently interfered with or frightened a Gombe chimpanzee, through ignorance or by accident, no chimpanzee has ever retaliated in the ultimate way. This is very impressive. At the very least, it shows remarkable tolerance by the apes, or more likely they see the long-established relationship with these familiar humans as something they are duty-bound to uphold.

26. When chimpanzees and local humans live at close quarters, especially in unprotected areas, outside of national parks or reserves, both parties must adjust to one another (Hockings et al. 2012). Each impinges on the other, sometimes negatively (crop-raiding by apes; deforestation by humans), sometimes positively (each tolerates disturbance of their preferred daily routines). Humans who tap wild palm trees for sap, which ferments into 'palm wine', allow chimpanzees to pilfer this beverage from their containers (Hockings et al. 2015). Sometimes these interactions go beyond the mundane, into matters of life and death. At Fongoli, a wild chimpanzee research site in Senegal, poachers captured a wild chimpanzee infant. Researchers tracked them down in a nearby town and reclaimed the infant. They then returned to the site, and when the context was right, restored the infant to its mother, and the two live on (Pruetz and Kante 2010). Each party respected the duty of care involved in parenthood.

27. Given all of the above, and my experience of forty years observing chimpanzees in the wild, it is my opinion that chimpanzees understand and carry out duties and responsibilities, that they knowingly assume obligations and honour them. Most importantly, such behaviour is essential for the maintenance of chimpanzee society, and it can be extended to human beings when necessary. The evidence presented passes the 'as if' test, that is, when we see such behaviour shown by humans, we credit it, and we should do the same with chimpanzees.

28. Based upon my research and expertise in this field, I support the NhRP's petition for a writ of habeas corpus on behalf of Tommy and the application of common law personhood to chimpanzees.

William C. McGrew, Ph.D

Sworn to before me
this 9th day of October, 2015

Notary Public

PETER C. FLETCHER
Notary Public
27 Pretoria Road
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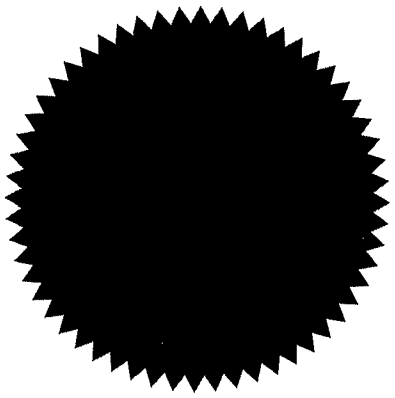
My commission is for life



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