

Animal dreams in a long dream series

Michael Schredl

Central Institute of Mental Health, Medical Faculty Mannheim, Heidelberg University, Germany

Summary. Animals are found quite often in dreams and speculations about their meaning are manifold. The present study is based on a series of 8,420 dreams of a young male. Overall, animals were present in about 7% of them. Specific waking-life experiences of the dreamer such as living with cats or having had a pet hamster are reflected in his dreams. On the other side, the negative animal contacts with snakes and spiders are not continuous with his waking life and might reflect continuity on an emotional level. In order to confirm this and other hypotheses, studies eliciting the amount of contact to real animals during daytime, media exposure to animals, whether the person is especially fond of specific species, and current emotional issues should be carried out in order to study the effect of these variables on the frequency of animal dreams.

Keywords: Dream series, animal dreams, continuity hypothesis

1. Introduction

Animal dreams have fascinated mankind from early on (Doidge, 2005; Platek, 2008). Artemidorus, the famous Greek dream interpreter, suggested a variety of interpretations having to do with dream animals. For example, a healthy domestic dog, that wags his tail in a dream, symbolizes that the dreamer's wife and other family members will be in good health (Artemidorus, 1991). The statements made by Sigmund Freud are well known; for example, "Many of the beasts which are used as genital symbols in mythology and folklore play the same part in dreams, e.g., fishes, snails, cats, mice (on account of the pubic hair), and above all the most important symbol of the male organ – snakes (p. 474; Freud, 1991).

Jungian theorists hypothesized that specific characteristics of the dreamer are represented by dream animals according to their predominant characteristics (Grön, 1998). In the following, empirical research which investigated factors that affect the frequency and content of animal dreams will be briefly reviewed. One of the most remarkable findings is the difference between adults and children regarding the frequency of animal dreams. Whereas in adult samples the frequency ranges between 5% to 10% (Domhoff, 1996; Strauch & Meier, 1992, 1996; Van de Castle, 1983), up to 50% of children's dreams, especially dreams of young children, include animals (Foulkes, 1982; Van de Castle, 1983). Garfield (1984) offered two explanation which are not exclusive: First, children are closer to their animal nature ("wildness") and, second, children are exposed to all kind of animal themes in children's picture books, classical fairy tales,

cartoons (Mickey Mouse, Donald Duck), or TV series like Lassie (dog), Black Beauty (horse), and Flipper (dolphin). Less than 1% of animal dreams were found in Japanese adults. The author explained this with the fact that there are very few pets in urban areas of that country (Domhoff, 1996). Another interesting finding was that Carl Gustav Jung dreamed about animals more often than Sigmund Freud (Hall & Domhoff, 1968). Jung was cited in this paper as having said he loved animals very much.

Women who love cats showed a higher frequency of cat dreams (about 5% to 13%) compared to the female norms (1.8% cat dreams; Domhoff, 2003). Domhoff (2003) introduced an index termed "cat percent" (ratio of cat dreams to cat and dog dreams) which was between 60% and 72% for the "cat lovers" and 45% for the female norms and 15% for the male norms. Last but not least, Lewis (2008) reported that animal activists reported many more animal dreams (38.4%) compared to a large student sample (7.5%; Van de Castle, 1983).

A dream study in indigenous cultures (Van de Castle, 2012) showed a direct relationship between animal dreams and the dreamer's contact with animals in their waking life. Aquatic animals, for instance, were often found in groups living near the water but rarely in the dreams of inland dwelling groups. Overall, the findings regarding the factors influencing the frequency of animal dreams are in line with both aspects of the continuity hypothesis formulated by Hall and Nordby (1972): the overt behavior (waking-life experiences) and covert behavior (thoughts, feelings, and fantasies).

Regarding the type of animal, dogs, horses, and cats are the most frequent species found in animal dreams (Lewis, 2008; Van de Castle, 1983; see also Table 3). Van de Castle (1994) also reported that aggression is more common in dreams in which animals play a prominent role – a finding which is supported by Domhoff (1996) who reported aggressive interactions between dreamer and animal in about 35% of all animal contacts whereas friendly interaction with animals occurred only in every tenth animal encounter. Animal lovers who belong to protest groups against cruelty to animals have more friendly interactions than aggressions in their animal dreams. Other humans are more likely to be

Corresponding address:

Prof. Dr. Michael Schredl, Sleep laboratory, Central Institute of Mental Health, PO Box 122120, 68072 Mannheim, Germany.
Email: Michael.Schredl@zi-mannheim.de

Submitted for publication: December 2012

Accepted for publication: February 2013

the aggressors to the animals (Lewis, 2008). Furthermore, the percentage of animal dreams is quite stable over time as shown by Domhoff (1996) in two dream series (N = 600 dreams of “Jason” and N = 187 dreams of the “Engine man”).

The present study analyzed the frequency of animal dreams within a dream series of 8,420 dreams recorded by a dreamer over a period of twenty-three years. As the dreamer was exposed to cats in his family, it was expected, in line with the continuity hypothesis (Schredl, 2003), that cats would play a prominent role in his dreams, especially during the time he lived with cats. Another aim of the study was to take a closer look at the types of interaction between the dreamer and the dream animal. Furthermore, the stability regarding the frequency of animal dreams was studied.

2. Method

2.1. Dream diary

The participant kept an unstructured dream diary from the age of 22, beginning in September, 1984 through December 2007. For the present analysis, 8,420 dreams from that period were included (see Figure 1). The mean dream length was 128.8 ± 82.6 words.

2.2. Participant and procedure

The male participant lived with up to five cats in the household from 1972 to 1986. Within the second half of 2007, he was in close contact with a dog bought by his romantic partner. As a child the dreamer was very fond of his small soft toy, a beaver, and developed an interest in this species. In adulthood he visited enclosures with real beavers three times. For about one year (around 1974), the dreamer had a golden hamster. The dreamer was born in Germany and has lived there since.

The dream reports were typed and entered into a database, Alchera 3.72, created by Harry Bosma, www.mythwell.com. This database allows the assignment of key words to the dreams, a task carried out by the dreamer himself. Each dream was rated for the presence of 69 animal species. Multiple occurrences of the same species within a dream, e.g., several cats, were coded in the same way as single occurrences. In some cases, the dreamer could not

Table 1. Animal dreams in the dream series (N = 8420)

Variable	Frequency	Percentage
No animals	7843	93.15%
One animal	421	5.00%
Two animals	118	1.40%
Three animals	32	0.38%
Four animals	4	0.05%
Five animals	2	0.02%

Overall, N = 779 animals

identify the animal; this was coded separately (“Animal (not specified)”). For comparing the present data with other data sets, animal species were grouped into eleven categories: cat, dog, horse, birds (eagle, duck, owl, goose, chicken, chick, parrot, peacock, penguin, bird not specified), rodents (beaver, squirrel, hamster, rabbit, mouse, guinea pig, rat, dormouse), predators (bear, lion, big cat, weasel, wolf), insects/slugs (ants, bee, fly, stag beetle, insects not specified, lice, caterpillar, butterfly, scorpion, spider, slugs, worm), reptiles (lizard, frog, crocodile, reptiles not specified, turtle, snake), water animals (dolphin, fish, shark, octopus, crab, seal, whale), farm animals/native species (donkey, hedgehog, cattle, sheep, pig, game animals, goat, fox), and exotic animals (ape, elephant, giraffe, camel, kangaroo, hippopotamus, duckbill platypus, skunk, raccoon).

The Alchera software also provides a word count for each dream report. The analysis unit was a single dream report. The data were exported into an Excel spreadsheet (Microsoft) and data analysis was carried out using the SAS 9.2 for Windows software package. To analyze the single binary time series we fitted an autoregressive Generalized Linear Mixed Model (AR-GLMM) with a logit link and serial correlation according to Klingenberg (2008). Thus, the GLIMMIX procedure with a power covariance structure was used.

3. Results

Overall, animals were present in 577 dreams (6.85% of the total dream series). Most often the animal dreams included

Figure 1. Number of dreams per year

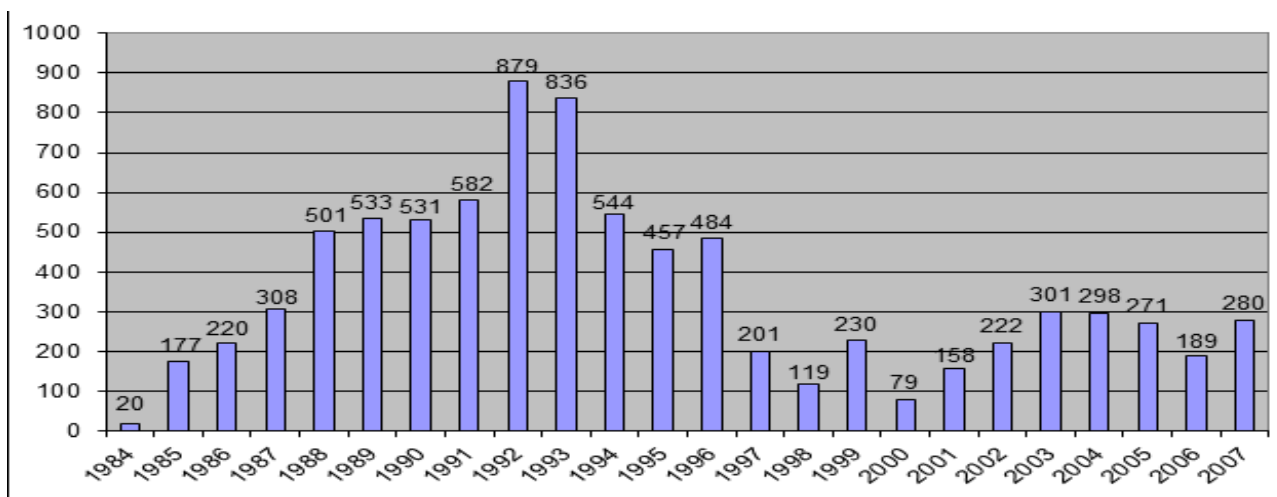
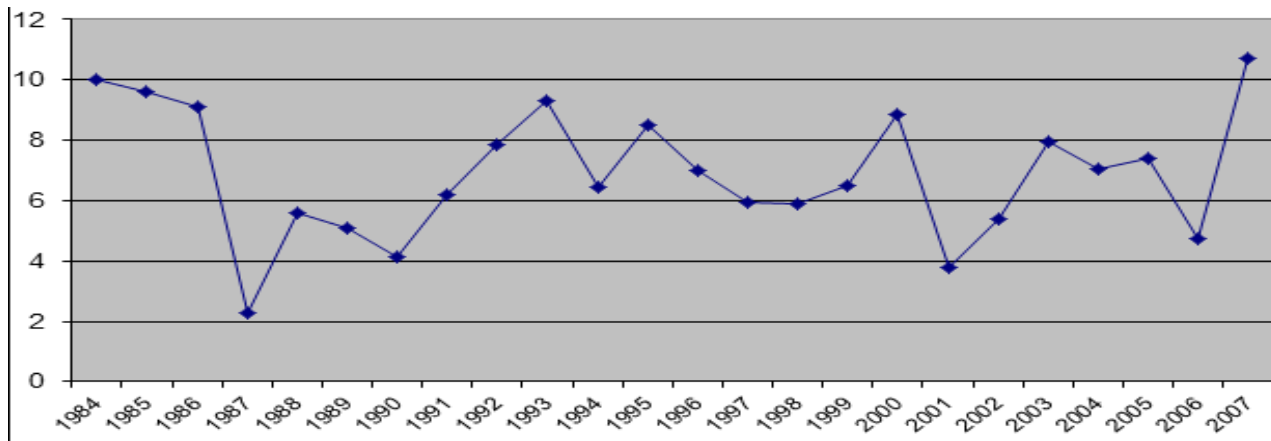


Figure 2. Percentages of dreams with animals



one species and only two dreams featured five different species (see Table 1). In Figure 2, the percentage of animal dreams per year is depicted; there is a considerable variability with values ranging from about 2% to 11%. Using the algorithm of Klingenberg (2008), the course of the time series was analyzed by comparing the percentage of one year with the percentage of the year following (1984 that included only 20 dreams was added to 1985). Of the 22 tests,

four comparisons were significant: 1986 vs. 1987, 1987 vs. 1988, 1990 vs. 1991, and 2006 vs. 2007.

The frequencies of the full range of animal species are depicted in Table 2. Cats were found most often, followed by dogs, horses, birds, insects, mice, and snakes. As stated above, the animal species were grouped into eleven categories (see Table 3). In addition to the frequency, the rank orders within each data set are included in Table 3.

Table 2. Animal species in the dream series (N = 8420)

Species	Frequency	Species	Frequency
Cat	129	Hamster	8
Dog	108	Big cat (tiger etc.)	8
Horse	47	Fly	7
Bird (not otherwise categorized)	33	Seal	7
Insect (not otherwise categorized)	31	Dolphin	6
Mouse	31	Sheep	6
Snake	30	Wolf	6
Fish	21	Ants	5
Pig	20	Slug	5
Bear	15	Stag beetle	5
Elephant	14	Donkey	4
Spider	14	Goose	4
Cattle	13	Guinea pig	4
Ape	12	Turtle	4
Rat	11	Goat	4
Beaver	10	Fox	3
Frog	10	Shark	3
Lion	10	Hedgehog	3
Chicken	9	Octopus	3
Crocodile	9	Lice	3
Lizard	9	Hippopotamus	3
Rabbit	9	Whale	3
Squirrel	9	Worm	3

(N = 2: Bee, butterfly, dormouse, duckbill platypus, eagle, game animals, penguin, skunk, weasel; N = 1: Camel, caterpillar, chick, crab, dinosaur, duck, giraffe, parrot, peacock, raccoon, reptile (not specified), scorpion, and N = 36 animals not specified)

Even though there are similarities between the three data sets (present dream series, German students, American students), e.g., dogs are common whereas exotic animals are quite rare in dreams; there are also distinct differences between the present data and the two student samples. First, cats are less frequent in the student samples compared to the dream series, whereas horses and water animals were more frequent in the student samples. The cat percent (number of cats divided by the number of cats and dogs) for this dreamer was 54.5% compared to 32% in the German student sample and 29% in the American student sample (see frequencies presented in Table 3). The percentage of cat dreams for the years 1984 to 1986 was 3.12% whereas the percentage of cat dreams for the following three years dropped to 1.04%. Using again the autoregressive Generalized Linear Mixed Model, the comparison of the two periods yielded a significant difference ($t = -2.9, p = .0021$, one-tailed). In a similar way, there was an increase in dog dreams from 2006 (0.53%) to 2007 (3.93%; $t = 2.9, p = .0198$, one-tailed).

In Table 4, the types of contact with the animal(s) in the dream are listed. Interestingly, most often there is no direct contact with the animal; in 454 cases out of the 779 animal contacts. Negative interactions (annoying, threatening, being bitten, fighting) and positive interaction (animal is helpful, caring for the animal, playing with the animal) were found in about 20% of the cases, each. In 171 cases the interaction between the dreamer and the animal included explicitly mentioned negative emotions and, in 37 cases, explicitly mentioned positive emotions. As expected, the negative contacts often went along with negative emotions, whereas playing with the animal was often mentioned as positive. Interestingly, there were a number of dreams ($N = 35$) including a negative emotions like sadness/compassion for an animal which the dreamer only saw, e.g., animal gets hurt or killed. The animals most often associated with negative interactions are spiders, snakes, and insects (see Table

4). Cats, dogs, and horses were most often mentioned in the category of positive interactions.

Overall, twenty-three dream animals were known to the dreamer in his waking life: 14 cats that lived with the dreamer at some point in his life, 5 dreams with the dog who belonged to his partner (second half of 2007), 2 cats that were pets of a known person, one dog and one bird, also pets of a known person.

4. Discussion

Overall, animals were found in about 7% of the dreams – comparable to the finding in a large student sample (7.5%) reported by Van de Castle (1983). Even though (Domhoff, 1996) postulated consistency of animal percent in his two time series of 600 and 187 dreams based on the frequencies of animal percent in subsamples of the series, the statistical analysis of the present time series showed that there is considerable intra-individual variability (4 significant changes from year to year, on average one out of 20 tests would be significant by chance), i.e., this finding indicates that specific factors of waking life might affect the occurrence of animal dreams. In two cases, the effects were marked, cat dreams decreased after the dreamer no longer lived with cats (end of 1986) and the number of dog dreams increased when the dreamer lived in close proximity to a dog (pet of his partner). In addition, the dream series included 23 references to animals the dreamer actually knew in his waking life.

These results clearly support the continuity hypothesis of dreaming, i.e., the more frequent the time spent with animals during the day the more often animal dreams occur. Even though hamster dreams are quite rare in this dream series ($N = 8$), the comparison to the student samples (Hall & Van de Castle, 1966; Van de Castle, 1983) which have no references to hamsters indicates that having a pet might have an impact on dreams even years later. Whereas waking life experiences with cats, dogs, and possibly a hamster have

Table 3. Animal groups in the dream series and in student dream samples

Species	Dream series (N = 8420)		German student sample (N = 1612) ¹		American student sample (N = 4000) ²	
	Frequency	Rank	Frequency	Rank	Frequency	Rank
Cat	129	1	24	3.5	27	7
Dog	108	2	51	1	66	1
Rodents	73	3	18	6	18	10
Insects/Slugs	69	4	27	2	23	8.5
Reptiles	56	5	11	9	29	6
Farm animals/native species	54	6	10	10	31	5
Birds	53	7	18	7	41	4
Horse	47	8	24	3.5	59	2
Predators	38	9	14	8	23	8.5
Exotic animals	37	10	5	11	7	11
Water animals	36	11	20	5	44	3

¹ Dream reports of 425 students (unpublished data of the author), ² Dream reports of 801 students (Van de Castle, 1983)

Table 4. Type of contact with animal (N = 779 animals)

Category	Frequency	Percentage	Negative Emotion	Positive Emotion	Top 5 Animals
Seeing/No direct contact	454	58.28%	7.71%	0.66%	Cat (74), dog (66), horse (37), bird (28), mouse (14)
Animal is annoying	27	3.47%	33.33%	0.00%	Cat (5), dog (4), insects (4), snake (2), ant (1)
Animal is threatening	66	8.47%	95.45%	0.00%	Snake (10), insects (7), dog (5), cat (4), bear (3)
Animal bites	38	4.88%	89.47%	0.00%	Snake (7), insects (5), lizard (3), dog (3), crocodile (2)
Fighting with the animal	11	1.41%	72.73%	0.00%	Spider (2), wolf (2), dog (1), bear (1), frog (1)
Killing/Hurting the animal	26	3.34%	46.15%	7.69%	Spider (5), insects (4), snake (3), mouse (2), ants (1)
Animal is helpful	25	3.21%	8.00%	16.00%	Dog (6), horse (5), elephant (2), frog (2), donkey (1)
Caring for the animal	88	11.30%	6.82%	4.55%	Cat (22), dog (13), mouse (10), pig (5), bird (5)
Playing with the animal	44	5.65%	4.55%	54.55%	Cat (22), dog (11), ape (1), dolphin (1), guinea pig (1)

affected the dreams (overt behavior in the terminology of Hall & Nordby, 1972), the beaver dreams indicate that there also might be an effect due to covert behavior (thoughts, fantasies) regarding animals because the dreamer was very interested in this species but only saw real beavers three times in his life (a few hours in total). Again, beaver dreams were quite rare in the dream series (N = 10) but compared to the nonexistence in the student samples (Van de Castle, 1983) it is remarkable. Even though waking life experiences and preoccupation with an animal can have a direct effect on dreams, this doesn't exclude the idea that animals in dream express personal issues of the dreamer in a metaphorical way (see discussion below).

Within this dream series, the variety of different animal species is large. The fact that pets or animals native to Germany outweighed the exotic animals also supports the idea that animal dreams depend on the waking life experience of the dreamer – as found by Van de Castle (2012) in his research with indigenous cultures who live in closer contact with the wild life. The high cat percent index (54.5%) is almost as high as the figures for dream series of the two cat lovers (Alta, Barb Sanders; Domhoff, 2003) and much higher than for male college students (Domhoff, 2003), again reflecting the waking life of the dreamer who was very fond of cats.

Analyzing the type of contact between the dreamer and the animal, interesting findings emerged. In most cases the dreamer didn't interact with the animal (or the animal with him), positive interactions like caring and playing were balanced with negative interactions (being threatened, being bitten or fighting). Whereas most of the positive interactions like playing with cats are continuous to the dreamer's waking life, most of the negative interactions are not, e. g., the dreamer has never been bitten by a snake, a lizard or a dog. Interestingly, the animals species most often present in negative interactions (spiders and snakes) are also often the content of clinically relevant animal phobias in adults (Vernon & Hirai, 2012). For these phobias a phylogenetic origin was hypothesized because these species have been very dangerous for mankind living in the wild (Marks, 1987).

How can these discontinuities regarding dream content be understood? One possible explanation is that the continuity is more pronounced regarding emotional issues and the animal contact is representative for these emotional is-

sues. Unfortunately, there is very little empirical research on this topic. One example would be to study dreams of persons who had life-threatening events and investigate whether there is a continuity of the emotional stress level in the waking state and heightened number of negatively toned animal contacts (possibly also other negatively toned topics) after these life events.

Another source for animal dreams might be media consumption which was not systematically investigated in this study. As children reported a strong effect of television and films on their dreams (Stephan, Schredl, Henley-Einion, & Blagrove, 2012), one might speculate that watching films, cartoons, video games featuring animals increases the number of animal dreams.

To summarize, the analysis of this long dream series indicates that three sources might have contributed to the occurrence of animal dreams: (1) waking-life experiences (cats and hamster as pets), (2) preoccupations (beaver as favorite animal), and (3) phylogenetic prepared fears (snakes, spiders). To extend this single-case study, it would be desirable to carry out studies eliciting the amount of contact to real animals during daytime, media exposure to animals, and whether the person is especially fond of specific species in order to study the effect of these variables on the frequency of animal dreams. The findings supporting the continuity hypothesis on a thematic level does not exclude correlations between animal dreams and emotional states, and animals dreams which can also be studied but which is much more complex.

Acknowledgements

The author would like to thank Harry Bosma for programming the tool for converting the Alchera database into the Excel format.

References

- Artemidorus. (1991). Traumkunst. Leipzig: Reclam.
- Doidge, N. R. (2005). Dreams of animals. In S. Akhtar & V. Volkan (Eds.), Cultural zoo: animals in the human mind and its sublimations (pp. 45-91). Madison: International Universities Press.
- Domhoff, G. W. (1996). Finding meaning in dreams: a quantitative approach. New York: Plenum Press.

- Domhoff, G. W. (2003). *The scientific study of dreams: neural networks, cognitive development and content analysis*. Washington: American Psychological Association.
- Foulkes, D. (1982). *Children's dreams: Longitudinal studies*. New York: John Wiley and Sons.
- Freud, S. (1991). *The interpretation of dreams (Org.: Die Traumdeutung, 1900)*. London: Penguin Books.
- Garfield, P. L. (1984). *Your child's dreams*. New York: Ballentine.
- Grön, O. (1998). *Das offene Geheimnis der Träume*. Freiburg: Kore.
- Hall, C. S., & Domhoff, B. J. (1968). The dreams of Freud and Jung. *Psychology Today*, 42-45, 64-65.
- Hall, C. S., & Nordby, V. J. (1972). *The individual and his dreams*. New York: New American Library.
- Hall, C. S., & Van de Castle, R. L. (1966). *The content analysis of dreams*. New York: Appleton-Century-Crofts.
- Klingenberg, B. (2008). Regression models for binary time series with gaps. *Computational Statistics and Data Analysis*, 52(8), 4076-4090.
- Lewis, J. E. (2008). Dream reports of animal rights activists. *Dreaming*, 18, 181-200.
- Marks, I. M. (1987). *Fears, phobias, and rituals: Panic, anxiety, and their disorders*. New York: Oxford Universities Press.
- Platek, B. (2008). Instinct as guide: Animals in women's dreams. *Psychological Perspectives*, 51, 108-118.
- Schredl, M. (2003). Continuity between waking and dreaming: a proposal for a mathematical model. *Sleep and Hypnosis*, 5, 38-52.
- Stephan, J., Schredl, M., Henley-Einion, J., & Blagrove, M. (2012). TV viewing and dreaming in children: The UK library study. *International Journal of Dream Research*, 5, 130-133.
- Strauch, I., & Meier, B. (1992). *Den Träumen auf der Spur - Ergebnisse der experimentellen Traumforschung*. Bern: Huber.
- Strauch, I., & Meier, B. (1996). *In search of dreams: results of experimental dream research*. Albany: State University of New York Press.
- Van de Castle, R. L. (1983). Animal figures in fantasies and dreams. In A. H. Katcher & A. M. Beck (Eds.), *New perspectives on our lives with companion animals* (pp. 148-173). Philadelphia: University of Pennsylvania Press.
- Van de Castle, R. L. (1994). *Our dreaming mind*. New York: Ballentine.
- Van de Castle, R. L. (2012). Animal figures in dreams. In D. Barrett & P. McNamara (Eds.), *Encyclopedia of sleep and dreams: The evolution, function, nature, and mysteries of slumber* (pp. 36-39). Santa Barbara: Greenwood.
- Vernon, L. L., & Hirai, M. (2012). Considering ethnicity and gender effects in disgust propensity and spider and snake phobia: Comparing Asian Americans and European Americans. *Journal of Experimental Psychopathology*, 3, 409-422.