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The Changing Social Meanings of Pets and Their Alternative Futures

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Abstract

The reason pets have become so popular lies in their functionality as objects of entertainment and companions. In addition, with the constant development of both capitalism and various technologies, pets have reached the point of becoming accessories to humans. Indeed, humans and pets, respectively, live in an upper and lower class relationship. People have come to see pets as belongings and seize control of their lives. Since pets are a part of humans' lives, the aim of this article is to explore and uncover the social meaning(s) of pets in human society and, hopefully, provide alternative futures of pets to pets/animals, non-pet owners, and decision makers.

As for the methodology, I have utilized Dr. Inayatullah's Casual Layered Analysis (CLA) and scenarios with double variable incasting. This has resulted in four possible pet futures: Win-win, Gaia, Identity loss, and Transformer. Within each scenario, readers can observe different levels of facts and understanding.

Keywords: pets, alternative futures, casual layered analysis (CLA), scenarios

Introduction

The attitudes humans exhibit towards animals have sparked societal controversies. The logic and needs of industry have pushed animals into becoming used for multiple purposes: clothing, food, scientific testing, and educational displays. At the same time, pets are treated with compassion and warmth, like part of a human family. The definition of pets, based on a cultural anthropologist Joel Savishinsky (1985), is "those animals who usually live within the walls of a house and share the intimate lives of its residents" (p.109). Although the relationship is defined as a close one with humans, it remains unfortunate that pets are also products able to

be sold and discarded at owners' wills.

Discussion of pet issues is lacking in the field of social science (Arluke, 2002; Kruse, 2002; Mullin, 2002; Pederson, 2004). Most studies focus on health and therapy amongst human-animal relationships. People's understandings of nature and animals used to be transmitted by elder members of society, through spoken word; today, understanding tends to be transmitted via illustrated books and media (Laurent, 2000). Thus, this research intends to explore the social meaning of "pets," and approach their alternative futures with attempts of pushing people towards rethinking the present.

Big Market

It is quite common to come across someone with a pet; not only has the number of pets been on the incline, but so has the market. For example, in 1996, American Pet Products (APPMA) reported that 59 percent of all U.S. households had a pet, with 40 to 50 percent having more than one. Similar high rates of animal ownership were reported in Australia and Western Europe (Melson, 2001). Following suit, another survey released by APPMA for the period of 2005 to 2006 showed that pet ownership grew to 63 percent of all US households. Within ten years, the growth of household pets increased by 4 percent. This is not to mention how many pet stores, veterinary hospitals, food products, pet toys, and a host of other pet services have come into being. Figure 1, below, illustrates how much money (USD) Americans have spent on their pets:

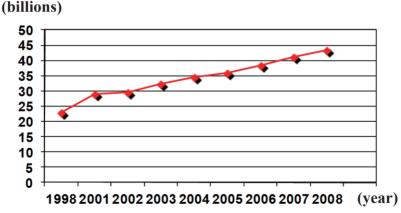


Figure 1. U.S. pet-related expenditure in 1998-2009

Note. From APPMA. Retrieved June 29, 2009, from http://americanpetproducts.org/press_industrytrends.asp

In the meantime, the development of technology, robotic pets, virtual pets, and other forms of high-tech "animals" continues to grow, due to an ever expanding market. For example, Sony Corporation's robotic dog, AIBO, sold 140,000 units from 1999 to 2005 (JETRO, 2006).

Historical review

Prehistory

The concept of "pet" is relatively recent, but the ownership of animals is persistent throughout time. The idea of animal ownership as an acceptable practice requires historical review. The turning point, when animals began to be seen as property, lies in the changing lifestyle of humans from hunter/gatherer societies to more domestic populations, which was in part due to increased human populations (Serpell, 1996). Owning animals reveals several social meanings, including a symbol of power/status and as forms of entertainment (Serpell, 1996).

Perhaps, the domestication of felines in ancient Egypt could be considered one of the first instances of pet ownership. Most interestingly, the idea of pet *is not exclusive to* animals, as *non-animals* can also be considered pets. In eighteenth century England, women of more elite households could be found keeping black children as pets (Tuan, 1984).

Shaping pet culture

The Industrial Revolution of the 19th century reshaped humans' worldviews. Humans felt independent and held authority over the world; they were given a new image as creators (Serpell, 1996). Meanwhile, increased urban populations, and the decline of large family, clans and community structures, has created new demand for keeping pets as emotional outlets (Beck & Katcher, 1996; Cowan, 1976; Serpell 1996). This, in turn, allows urban populations to feel "connected" with something, with pets taking the place of humans. Feelings of anxiety, worry, insecurity, and fear have developed alongside people, but pets play a role in the stabilization of people's emotional connections. Indeed, pets provide what people need: emotional dependence, self-esteem support, and companionship. Pets are also seen as having therapeutic benefits for people (Capone, Bompadre, Cinotti, Alleva, & Cirulli, n.d.; Serpell, 1996; Melson, 2003).

Moreover, when consumerist tendencies are added to the concept of keeping pets, the relationship between pet owner and pet is no longer merely about companionship. People spend a lot of money on their pets. Entrepreneurs, based on the core practices of late capitalism, use all means available to spur pet owners to spend on their pets, playing on their desires and emotions (Beck & Katcher, 1996). Spending on pets can also be considered self-indulgent, as attitudes and gestures associated with accessorizing pets can also represent an owner's self-image (Veevers, 1985).

Due to development, people have come to new attitudes and practices towards dealing with animal issues, called post-domesticity (Bulliet, 2005). The main characteristic of post-domesticity is that people maintain very close relationships with their pets, relating with them as humans and feeling shame, disgust, and guilt from knowing about and understanding the industrial process of animals (Bulliet, 2005). Thus, a developed, outside behavioral response to post-domesticity has been elective vegetarianism (Bulliet, 2005).

Some technological resolutions have been created to solve the problems brought about by real pets, such as disposing of waste and the great responsibility required for their care. For example, "created animals," such as robotic, artificial, and

cloned pets, are beyond what we understand as "real" animals and what our laws currently define as "pets." The many types of "created" pets can be divided into the aforementioned three, which have all seen increased attention and interest in pet consumerism. Robotic pets include Furby, AIBO, Pleo, etc.; artificial pets include devices such as Tamagotchi, Nanopets, Digimon, etc.; cloned pet orders are accepted by companies, such as California biotech company BioArts and South Korean firm RNL Bio, to rebirth owners' deceased pets (Pelletier, 2008).

Controversial issues regarding the rights of beings (both animate and inanimate) arise as a result. For instance, aside from the rights of robots being widely discussed, actual examples of the rights of plants exist. In the 1990s, Switzerland asked national geneticists to take a plant's dignity into consideration when commencing research, in order to protect all living beings. In addition, in regards to global warming, green consciousness is rising, with stunning revelations that pets, and domestic animals, may be damaging the environment more than our cars (Ravilious, 2009).

Methodology

This article will utilize two methodologies of futures studies, CLA (casual layered analysis) and scenarios, to explore the meaning of pets and look for their broader futures. CLA is a theory and method, developed by Sohail Inayatullah, which helps in the comprehension of different levels of understanding, in this case the meaning of pets. It is structured into a four-layered system, from a surface to a deepest layer. These layers are litany, social causes, worldview, and myth/story. The scenarios will use the double variables method, which identifies two major uncertainties and thereafter develops scenarios. In this article, four scenarios will be shown and each scenario will use CLA to deepen its understanding for readers.

CLA Analysis for Today

Before exploring more pet futures possibilities, CLA will be used to analysis the present situation of pets, in order to provide the reader clarity and further open the possible pet futures.

Litany

On this level, pets are pets. They are declared family members, and have emotional support and large market potential, but there comes an "unwanted pet problem" in society. If people call pets family members, is it not then paradoxical to abandon them? Nevertheless, responsibility of the problem is usually pushed away by the general public and placed within institutions.

Social causes

At this level, technological, cultural, and economic development, as well as patent law, are discussed. Socially, humans are within a period of "postdomesticity" (Bulliet, 2005), so relationships with pets are more intimate. Part of this trend follows the fact that the proportion of urban dwellers is rising (about 47% in 2005, and projected to be 59% in 2030), based on a report from the UN Population Division (2009). Obviously, urbanization is continuing to grow dramatically. Thus, as more people move to cities, the distance between the general population and animals

becomes longer. In turn, a greater emotional need for pets develops. It is at this point that people begin feelings guilt and/or disgust towards the industrial processing of animals. These feelings push people to desire stronger animal protection policies. This is in line with Indian philosopher Sarkar's (2007) neo-humanist prospective.

Second, technology will continue developing. Electronics industries and schools are exploring more functions and applications for robotics, virtual pets, and gene engineering skills. By 2020, humans should be able to create smart robots (Halal, 2006). In 2005, a South Korean firm, RNL Bio, announced successes in dog cloning and is now accepting requests for clones (Pelletier, 2008).

Third, economic support comes into consideration. Since the 1970s, a change has taken place from mass industry to post-industrial economies, with the latter being a knowledge-based economy. The American government began developing life science technologies, opening a new page for life production. The United States put more of its federal budget towards science than any other OECD country, and the National Institutes of Health (NIH) funds up to 60 percent of this budget for use in life science (Cooper, 2008). Moreover, in the area of robotics, Japan has been developing industrial robots since the same period, in response to the automotive and electronics sectors and their demands for mass quantity production. Now, Japanese robotics has become dedicated to a greater functionality of robots, including nursing, welfare, and entertainment robots (Myoken, 2009). Specifically, the market scale of entertainment robots is 12 percent, according to Seed Planning Inc., a Tokyo marketing and consulting company (2008). In addition, Nomura Research Institutes (NRI), a leading Japanese think-tank and system integrator, believes the future market scale of robots will grow based on new government policies and strategies and support from private companies (Yamaguchi, 2008).

Fourth in the list of social causes is influence of Western culture. For example, in the early 90s, American pet culture greatly influenced the pet culture of Japan, where was seen an increase in the number of dogs. In 1994, the Pet Food Institute of Japan conducted Japan's first survey for measuring the number of pet dogs in the country; a population of 9 million canines was measured. Now, the number has increased to over 13 million (*Nippon Zenyaku Kogyo*, 2009). Traditionally, Japanese have favored fish as pets, but after WWII, their interest in dogs was piqued by Europeans.

Fifth and final, patent laws ensure that innumerable life forms and lifeless products (pet robots and virtual pets) can be generated and monopolized. Here cloned pet should be emphasized because their "life specialty" is commercialized. One owns the technology for creating and generating life without actually owning life itself (Cooper, 2008). For instance, there are two companies fighting over a patent concerning animal cloning technology. Previously, RNL Bio Company announced that its dog cloning technology had been successful and was ready to accept pets for worldwide cloning. Later, they announced that their cloned dogs have the ability to detect cancer. However, last year, another American company, BioArts Internationals, declared that they hold the patents for cloning technology throughout most developed countries. The CEO of BioArts stated, "Good international relations in the 21st Century depend on respect for intellectual property." Furthermore, it is stated that "by claiming the right to exploit technology that they did not invent and do not own," businesses and people demonstrate their own arrogant attitudes towards intellectual property (*Business Wire*, 2008).

Worldviews/discourse

At the level of worldview/discourse, people believe in capitalism and technology. People want to achieve great progress and wealth, believing that by applying capitalism and technology, their goal(s) can be reached. Most countries believe in capitalism by looking just at its positive side. One need only look at the numbers to realize how big the market is for pets in capitalist societies. Once the consumerist pattern is added to the relationship between people and their pets, their relationship is not that of simple companions. Different breeds of pets warrant different prices at the market based on aesthetics and current popularity.

In addition, people believe that advanced technology will enable humans' relationships with pets to function more perfectly. Technology brings positive merits to modern life. Since more and more people are moving to cities, and their living spaces are becoming smaller, it is immensely important to teach pets to follow certain rules to avoid problems. Inventing robotic and virtual pets that are easier to control and take care of solves the problem of food and cleaning up after live animals, and eliminates the need to train new pets how to live in human society.

Combining technology and capitalism greatly alters the relationship between people and pets. The relationship is mutually beneficial: people believe they are saving pets and pets positively impact human health and offer emotional comfort. However, the underlying ice-berg of changing meaning in this relationship is the ever-present system of capitalism. Technology, which includes virtual and robotic devices and genetic engineering skills, is an accelerator of the machine.

Myth/metaphor

At this deepest level, myths and metaphors, the idea of "pet" is questioned. Pet culture exists now as a concept of Western culture. Although every culture is likely to have their own philosophy concerning pets, most concepts involving pets, nowadays, takes on obvious Western ideals.

The myth held by pet owners is that 'pets are personal slaves and/or toys.' Pets are taken as personally owned *things* that can be sold on the open market, which makes them slave-like. They are bought from a four-walled space, by pet owners, for company and entertainment purposes. For exploring more functions and adaptations in urban city environments, humans have begun inventing virtual and robotic pets, and genomics for better controlling "animals."

The above CLA is shown as the following Table 1:

Table 1. CLA of current pets

Litany	Keeping pets benefits humans' health; do not abandon your friends.		
Social Cause	Postdomesticity, technology, patent laws, economic supports,		
	Western culture influence.		
Worldview	Technology and capitalism reaches progress		
Myth/Story	Pets are slaves.		

Alternative Futures

The following are four scenarios for pet futures. At the end is a table for readers to make comparisons and draw further, personal conclusions.

Again, knowing future scenarios is important; prediction is not the main goal, but rethinking the present by looking at the future is. The article explores two

variables: the nature of the dominant system and the nature of values. The former indicates technology and capitalism, and the latter suggests green consciousness and neo-humanism.

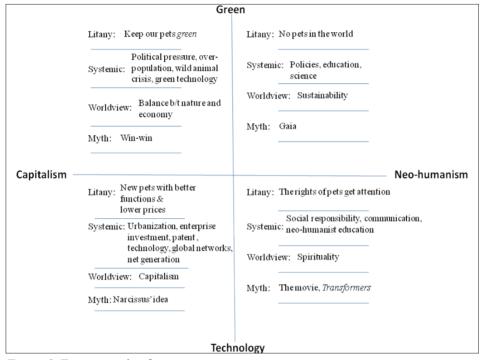


Figure 2. Four scenarios for pets

Scenario 1 - Evaluation between money and earth

At the litany level, pet owners try to keep their pets green in response to trends. Manufacturers and companies need to satisfy this demand and do so by making green toys and producing organic food. At the systematic level, problems of pet overpopulation and their ecological footprint emerge, which leads to feral animal crises, mainly in areas where there may otherwise be an absence of feral animals and political pressures. Technology is used to reach the aforementioned green goal. At the third level, worldview, humans strive to find a sustainability balance between nature and economic profit(s). At the last level, myth, a win-win situation found is. Humans here find a balance between economic development and the global (ecological) environment.

Story 1: Allen is an office worker who also happens to be a pet owner. Before going to work in the morning, he feeds his real pet organic food that has the *green* label on it, takes it for a walk, and takes care to dispose of any waste by way of a plastic bag. After he gets to his office, a virtual pet jumps out from a side-wall to welcome him. It could accompany him for a day, and Allen does not need to expend much effort in its care. At night time, Allen goes home. He plays some games with his real pet using *green* toys before feeding it. Before going to bed, he reads e-books concerning *green* pets and *green* purchases.

In scenario 1, a new [green] value arises. This is a balance between making money and sustaining the environment. How to green our pets would need our intellectual and mindful attention. Though the new value shifts, pets remain products in the capitalist system, but with a green label. For pets and their owners, lifestyle will have to connect to Gaia. For the society, reaching a sustainable future is the most important mission.

Scenario 2 - Gaia

At the litany level, there is no pet culture for green's sake, due to the equal rights deserved by all creatures. At the systematic level, policies are flexible and soft, with consideration to our ecological footprint. The purpose of education is for our environment. Emphasized is our identification of the self within the world. Science is creatively developed. At the worldview level, sustainability is focused on what leads to a sustainable future and how we create this. Humans continue asking this question. The answer would be to interact with the environment rather than just ourselves. The myth level is "Gaia."

Story 2: James is a political consultant who works for the global government. It is a world rife with highly advanced technology with the purpose of maintaining a green global society. In the morning, James takes a walk in his garden and then meditates. Then, he connects himself to the Internet where he can reach people if needed. He works at home and lives in a wonderful place surrounded by nature. His house has solar panels on the roof and was built without destroying nature, instead using natural resources of the area. At night, he invites his robotic friend, who usually helps with his administrative documents, over for a cup of tea. They have a very good time.

Scenario 2 gives a different future from now. It has new [green] values and a new [neo-humanist] system type. This future might take longer than any of the other scenarios put forth in this research. It is a world without pets since people seek green ways to reach sustainability and they no longer need pets for emotional support. So, animals cease to belong to people, even making the word "pet" obsolete. People look for spirituality through meditation or yoga. Society thus reaches a point of being a Gaian society.

Scenario 3 - Identity loss

At the litany level, new versions of pets continue to be "manufactured" in some way, with better functions and lower prices, thus attracting consumers worldwide. At the systematic level, urbanization makes the needs of pets greater, and enterprises make great investments in developing new technological functions (gene engineering, robots, virtual realities) in relation to pets because of the market (they might cooperate with academic schools). At the same time, patent protection ensures that only companies selling their particular pet products generate profits. Also, enterprises commercialize their products through global networks (Internet). Finally, younger generations' greater abilities of adapting to change and new technologies help in the acceptance of high-tech pet products. The worldview here is capitalism ideology. People believe in economic growth is everything and how the world functions. Finally, a metaphor, the "Narcissus' idea," is proposed. The narcissist

continually looks at his/her own reflection and is obsessed with his/her own image. The meaning here is that the consumer is losing the identification with their desires in the materialist world

Story 3: Brenda is an office worker. She lives by herself in Taipei. Today, she bought a new virtual pet online, which was newly released by an international company. This virtual pet has more developed functions than previous versions. In addition, the owner can shut it down at will. In the daytime, Brenda's colleagues see her new pet and it becomes a hot topic amongst them. At the same time, a television in the office advertises the product. On Brenda's office desk sits older robotic pets collecting dust. At night time, she goes home, feeling lonely and anxious, and then turns on the television, computer, and her new virtual pet. Anxiety lessens as a result. Finally, she connects herself to the Internet and searches for more new toys.

Nowadays, the real world closely resembles scenario 3. If people only care about making money, then they will eventually lose their identities. Here, pets are regarded as little more than toys or ornaments. They are manipulated without freedom. For pet owners, keeping pets in this type of world is not for emotional gain or company, but instead for the desire of making a purchase and possessing something new. Quite simply, pets are tools used for the fulfillment of desires and dreams. For the whole of society, pets are products that have high market potential. Capitalism and tech marketing lead, in turn, to the exploitation of the environment and the overtly desiredriven personalities of people and their slave-like pets within modern societies.

Scenario 4 -Disciplined society

Within the litany level, pets exist in different forms. They may be real animals, virtual models, robots, products of genetic engineering or humans, etc. No matter their form, the issues concerning pets' rights and welfare begin to garner attention. At the systematic level, there are laws to protect pet rights. Higher technological development changes our lives, but social responsibility should be taken into consideration before these changes occur. Communication between pets and humans is no longer viewed as a problem. For example, there is technology to help interpret and translate the sounds of pets. The purpose of education is to think diversely, broadly, and deeply, moving from rationality to spirituality. The worldview is that of spirituality. Devotion and ecology are focused.—t. Finally, the movie "Transformers" can be used as a metaphor: each "alien robot" has its own will, rights, and is respected as an individual.

Story 4: Liz is a college student with a robotic pet. In the morning, she meditates and then plays with her pet for a couple hours, with communication between them being no problem. Then, Liz asks her pet if it wants to go for a walk with her to school; unfortunately, he decides to stay at the dormitory because of the snow. At school, teachers introduce the history of rights. They show how blacks, women, and aboriginal peoples won their rights. By the end, they excitedly mention the first robotic legislator in history, who was, earlier in the year, elected to office. At night, Liz goes to bed with her pets.

In scenario 4, advanced technology creates many kinds of pets, these being artificial, robotic, cyborg, etc. Pets can actually "talk" to humans, thereby deserving

the same rights, and can be considered "family members." Additionally, humans in this scenario gain more than just emotional support from pets, but also functional purposes. For the whole of society, that means pets are part of us, and so towards them we have a social responsibility. Since pets can perform multiple tasks, this means less work for humans and more spare time.

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	
Litany	Green our pets	A world without	People are crazy	Pets' rights are	
		pets	about new version	receiving attention	
			of pets		
System	Pet overpopula-	Ecological	Enterprises'	Social	
	tion, ecological	education,	investment(s),	responsibility,	
	footprints,	soft policies,	patent protection,	communication	
	technological	creative science	net generation,	between owners	
	help		urbanization,	and pets is not	
			global media	an obstacle,	
			networks	neo-humanist	
				education	
World-	Balance b/w	How to reach	capitalism	spirituality	
View	economy and	sustainability?			
	nature				
Myth	Win-win	Gaia	Narcissus looks at	The movie	
			his own reflection	Transformars	

Table 2. Four scenarios of pets

Present Policy Making Challenge

By looking at the myth/story layer of CLA in the current situation, pets are taken as personal slaves or toys. As such, the process of policy making is, undoubtedly, based on myth. Although laws exist that are designed to protect pets, their enforcement is difficult. So, continued is the treatment of pets based on previous examples and old mindsets. Just as laws are difficult in their carrying out, challenges exist for each of the scenarios presented in this research.

For reaching scenario 1, the main challenge is determining how current material value needs to be changed to become *green* and applied so as to deliver a better future. The concept of *green* value is expanded as a result. It can then apply not only to the traditional environment but technology as well, such as buildings, transportation, and high-tech pets.

Policy makers will need to find a balance between economic development and environment. However, before this, there are even more problems to deal with: bureaucracy, politics, and power.

To reach scenario 2, the challenge is not only how to include *green* thinking in daily life, but also how to change from a capitalist system to that of neo-humanism. This, in particular, is the most challenging. First, the elimination of ego presumption is necessary. Second, respecting all animate and in-animate beings, which is a vital concept, is unimaginable at present. Also, this would have to be realized *legally*. In the future, humans may come to the conclusion that they are, truly, just one of many species on Earth. As such, the concept of "ownership" changes from previous meanings.

For scenario 3, the challenge would be power distribution between national governments and international enterprises. Advanced technology and capitalism, in addition to globalization, cause the weakening of government functionality. International companies hold high technological skills and huge capital power. How can any government come to a solution to this problem? If a society is monetarily rich and desire-driven, with only a minority in power, the result is disastrous.

To reach scenario 4, the biggest challenge is whether pets should obtain the same rights as humans or not, with pets being both animate and in-animate. In the future, there will emerge different forms of high-technology pets. So, they are part of our lives and will remain important intimate companions. Also remaining would be humans' obligation and social responsibility to challenge their slaves/toys myth. For example, in 2010, Switzerland began discussing the possibility of providing lawyers for animal who cannot speak in court, though this move was rejected (Foulkes, 2010).

Giving rights to pets is akin to giving them certain powers, powers needing trust in order to bestow. Once pets have the same rights as humans, the distinction between animation/inanimation, reality/virtual, artificial/natural becomes vague.

Conclusion

Before commencing this research, I followed personal guidelines and societal norms that I considered in-line with "taking care" of pets. Mostly, my thoughts were along the lines of buying special pet food, clothing my pets, etc., as would any pet owner. However, after watching the movie *Quill*, a film about dogs that struck many people (and, consequently, started a wave in Taiwan of people keeping Labrador retrievers), something awoke within me saying that the aforementioned things, along with my personal position, were wrong. Uncertain as to what was actually happening, I had only a vague idea of what was going on even in my *own* mind, so I began this research, eventually coming to a further understanding of pet culture.

Indeed, I have come to understand that current ideas concerning pets are incorrect, unsustainable, and morally and ethically wrong. What I care about most is how pets are treated and the lasting health of the Earth, leading to my preference of Future Scenario 2, a world where every being is respected and the environment is taken into consideration during every decision-making process. Regardless, I recognize that it is, for now, the most difficult of the futures to realize and obtain. I see that I am part of the problem, but how can I break from the traditional mold that so completely makes up how people think of pets, in order to make change?

After my research, I became conscious of how truly important it is for humans to not only be connected to nature, but also be active in their knowledge of this connection, understanding that we are just a part of nature instead of being in a position of dominance over it. Personally, what I have done is started consuming *less* meat and becoming *greener*. To influence others, I hope this paper can provide people (including me) with the information necessary to formulate new and different ideas and/or dreams about pet futures.

As for the treatment of pets, my family and I no longer purchase pet clothing or other accessories merely for aesthetics; instead, we now base consumption on the nature and practicality of a purchase. Further, we usually take our dogs for walks three times a day, excluding our minimum of two hiking trips per week.

This benefits not only our pets, but also ourselves, as none of us remain stuck in the house. However, the collar and leash, the symbolic pairing of control, remains a present reminder of our city-lives, which requires items for the safety of pets and people around them. But, we do care for their feelings. They can go wherever they want in the house, and spend much time running around wherever they want in parks, on local streets (those across from my house), and in the mountains (on trips).

Quite frankly, it is difficult to keep a pet in the city while simultaneously avoiding the stifling of their freedom. However, my family and I feel that this is exactly what we do: tread lightly and step little on our pets' wants and freedoms. We treat them with respect, but under the same guidelines as our own.

The purpose of this research was to bring people's attention to the area and study of pets and challenge the common perception of what being a "pet" is. Again, this study mainly discusses urban cities in developed countries and the beliefs held in these areas. Furthermore, as far as society is concerned, those who share the same space as pets can begin considering what future is preferred in regards to companion animals.

In reviewing history, the meaning of "pet" has proven to be a changing perception. Indeed, pets have shifted from living outside of households to being inside of portable LCD screens. Similarly, its values have changed from functional to emotional to a combination of both due to technological development and propagation.

Through CLA, people should be able to understand different levels of reality, from the surface level to underlying myths towards keeping pets, thereby being able to make informed decisions. It has been shown that there are alternative pet futures that can be achieved, but that people must be wanting of these achievements. The future has many possibilities, possibly differing from the present and coming in a form that we may dislike or possibly *prefer* to some perceived outcome. It is my hope that this article has proven thought-provoking and useful in its endeavor to make people rethink their attitudes towards pets.

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References

Arluke, Arnold. (2002). A sociology of sociological animal studies. *Society & Animals*, 10(4), 369-374.

Beck, Alan, & Aaron Katcher. (1996). *Between pets and people*. Indiana, PA: Purdue University Press.

Bulliet, Richard, W. (2005). *Hunters, Herders, and Hamburgers: The past and future of human-animal relationships*. New York: Columbia University Press.

Business Wire. (2008). International dog-fight over cloning between BioArts International & RNL Bio. Retrieved September 21, 2009, from http://www.financialexpress.com/news/international-dogfight-over-cloning-rights-between-

- bioarts-international-&-rnl-bio/324955/
- Capone, Francesca, Giulia Bompadre, Stefano Cinotti, Enrico Alleva, & Francesca Cirulli. (n.d.). *Beneficial effects of pet relationships: Results of a pilot study in Italy*. Retrieved April 6, 2009 from http://www.iss.it/binary/neco/cont/Beneficial%20effects%20of%20pet%20relationships.1202902553.pdf
- Cooper, Melinda. (2008). *Life beyond the limits: Inventing the bioeconomy. Life As Surplus.* USA, WA: University of Washington press.
- Cowan, Ruth Schwartz. (1976). "The Industrial Revolution in the home: Household technology and social change in the 20th century". *Technology and Culture*, 17(1), 1-23.
- Foulkes, Imogen. (2010). Switzerland rejects move to provide lawyers for animals. BBC News. Retrieved April 4, 2010, from http://news.bbc.co.uk/2/hi/europe/8554012.stm
- Halal, William E. (2006). "Technology's promise: highlights from the techcast project." *The Futurist, 40*(6), 41-50.
- Japan External Trade Organization (JETRO). (2006). *Trends in the Japanese robotics industry*. Retrieved April 1, 2009, from http://www.jetro.go.jp/en/reports/market/pdf/2006 15 c.pdf
- Kruse, Corwin R. (2002). "Social animals: Animal studies and sociology." *Society & Animals* 10(4), 375-379.
- Laurent, Erick L. (2000). *Children, 'insects' and play in Japan. Companion animals & us: Exploring the relationships between people & pets.* Cambridge, UK: Cambridge University Press.
- Melson, Gail F. (2001). Reaching across the divide. Why the wild things are: Animals in the lives of children. Cambridge, MA: Harvard University Press.
- Melson, Gail F. (2003). "Child development and the human-companion animal bond." *The American Behavioral Scientist*, 47(1), 31.
- Mullin, Molly. (2002). "Animals and anthropology." *Society & Animals*, 10(4), 387-393.
- Myoken, Yumiko. (2009). Research and development for next generation service robots in Japan. Retrieved September 20, 2009, from http://ukinjapan.fco.gov.uk/resources/en/pdf/5606907/5633632/next-generation-services-robots
- Nippon Zenyaku Kogyo Co. (ZENOAQ). (2009). *More dogs and cats*. Retrieved September 28, 2009, from http://www.zenoaq.jp/english/aij/0905.html
- Pedersen, Helena. (2004). "Schools, speciesism, and hidden curricula: the role of critical pedagogy for humane education futures." *Journal of Futures Studies*, 8(4), 1-14.
- Pelletier, Dick. (2008). *Cloning lost pets help owners get over their sorrow.* Retrieved December 12, 2008, from http://memebox.com/futureblogger/show/583-cloning-lost-pets-help-owners-get-over-their-sorrow
- Ravilious, Kate. (2009). "Cute, fluffy and horribly greedy." *New Scientist*, 204(2731), 46-47.
- Sarkar, Prabha Ranjan. (2007). *Renaissance in all the strata of life. Birds and animals.* Tiljila, Calcutta: Ananda Marga.

- Savishinsky, Joel. (1985). Pets and family relationships among nursing home residents. In Marvin B. Sussman (Ed.), *Pets and the family*. New York; Haworth.
- Seed Planning Inc. (2008). *A market survey of service robots*. Retrieved September 14, 2009, from http://www.seedplanning.co.jp/press/2008/1224.html (Japanese)
- Serpell, James. (1996). *In the company of animals: A study of human-animal relationships*. Cambridge, UK: Cambridge University Press.
- Tuan, Yi-Fu. (1984). Dominance & affection. New York: Vail-Ballou.
- United Nation Population Division. (2009). *World urbanization prospects: The 2007 revision population database*. Retrieved September 30, 2009, from http://esa. un.org/unup/p2k0data.asp
- Veevers, Jean E. (1985). "The social meanings of pets: Alternatives roles for companion animals." In Marvin B. Sussman (Ed.), *Pets and the family* (pp.11-30). New York: The Haworth.
- Yamaguchi, Takeshi. (2008). *Market of service robot*. Retrieved September 20, 2009, from http://business.nikkeibp.co.jp/article/tech/20080220/147642/ (Japanese)