

# Community involvement and urban dogs - some ideas

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## ABSTRACT

The paper uses a naturalistic perspective to explain a dependency between people and dogs. On the basis of the explanation, an argument is developed for broadening the focus of urban animal management policy from 'responsible dog ownership' to a community based philosophy which allows greater public recognition of the benefits and costs of dog keeping in the urban situation.

## BACKGROUND

Michael Jones is a major contributor to commentary on local government. He notes that there is an urgent need for local governments to re-think their philosophies while still observing the basic principles of community self-government and the ideals of equitable representation. For him, this means innovative policies and a scepticism of managerialist techniques which seek to undermine the importance of politics and values in local decision making (1993:3,32,266). The naturalistic perspective of this paper may assist local government administrators to develop innovative and organic policies which, it is argued, may ameliorate the adversarial positioning of actors which occurs in the paradigm of 'responsible dog ownership'.

The public discourse on dogs in the urban environment in Australia generally is expressed through legislation, and centers on:

- control of the animal through registering its ownership, and promoting its leashing, fencing and obedience training;
- concern and legislation for the welfare of the animal; and
- control of its population through selective public support for desexing and in some cases through regulating the supply of pups.

The discourse seeks to establish norms of behaviour by the keeper of the dog. It is suggested that the basic philosophy underlying this discourse remains encapsulated in what the utilitarian philosopher Thomas Hobbes (1588-1679) considered to be a natural law of society: *'do not that to another, which thou wouldst not have done to thyself'* (Brown 1984:52)<sup>1</sup>. In the context of urban animal management the philosophy is usually stated simply as 'responsible dog ownership', and legislation seeks to define just what is 'responsible' behaviour. The dog is seen as private property which is assumed to be the instrument of the owner. Administrative systems are set up to deliver control using familiar techniques of dog catching, penalisation of recalcitrant keepers and education in responsible dog ownership. However, as Brown points out, the Hobbesian philosophy is a means to the end of social well being, it is not an end in itself.

This paper argues that 'responsible dog ownership' is not sufficient as the sole basis for urban animal management. There are many other issues involved which are outside the control of the individual. Simple normative prescription of dog keeper behaviour (and even that of the 'good citizen' dog) can only be one part of organic urban animal management. A naturalistic perspective can supplement urban animal management based on normative philosophy. Before the naturalistic perspective is explored, the normative prescription is re-visited briefly.

## A NORMATIVE PERSPECTIVE

Limitations of space dictate that this discussion begin with European colonisation of Australia. Along with colonisation came the notion of dominion over animals which had been institutionalised in *Genesis*. The legal concepts which came probably included an English law of 1588 which saw a dog, being a thing which is tame by the industry of man, as private property (Thomas 1983:112).

When the First Fleet sailed from the Isle of Wight in 1787, pens of puppies and cats were crowded on its decks, along with other domestic animals (Jeffery and Shaw 1965 IV:72-6). The dogs and cats seem to have proven useful: it appears some 'terrier' dogs and cats were sent by Governor Arthur Phillip to Norfolk Island, in a bid to control rats which ravaged the first harvest of the colonisers under the supervision of Lieutenant Philip King (Governors' Despatches 28 September 1788). However, within a decade, when King had become Governor of New South Wales, the control of dogs was seen as necessary for the well being of the colony:

... as the breeding stock of sheep is of the greatest consequence to the welfare of this colony, no person is to suffer any cur dog to follow them, or any cart, wheelbarrow, &c., the Governor having given permission to those who have flocks of sheep to order their herdsmen to kill any dogs that approach them, and the owners will forfeit treble the value of any stock killed by them. Persons who keep cur dogs that are in the habit of flying at horses are to destroy them, otherwise they will be indicted as a nuisance. It is recommended to those who have more dogs than one (except greyhounds or terriers) to kill them, as a tax will shortly be laid on all cur dogs ...

Philip Gidley King

Government and General Order, 17 February 1801

The public attitude to dogs appears to have been equivocal from the start. While on 22 July 1804 the *Sydney Gazette* wrote sympathetically of a luckless and faithful dog which had been cruelly treated, and other editions advertised lost pets, there also were many reports of nuisances caused by dogs<sup>2</sup>. By 15 August 1812, the paper reported that the streets of Sydney had been rendered dangerous to all passers-by due to 'the Extraordinary Increase of Curs and Mongrel Dogs of a base and worthless Description'<sup>3</sup>. On 18 November 1820, the paper called for public attention to the issue. The call eventually seems to have been effective. On 14 April 1830 an Act was passed in the Legislative Council of New South Wales which, among other things, required dogs in public places to be identified to their owners. It is interesting that the Act applied as far as 'practicable to do so without detriment to that species of security of property which dogs afford' (Public General Statutes of New South Wales 1861:217-20). Urban animal management has practical foundations.

There is not space here to follow subsequent policy statements through the various Acts which followed. Suffice to say, these culminated in the Dog and Goat Act 1898 of New South Wales. This Act became law in the ACT when the territory was established in 1911. The Act was replaced with Ordinances in 1926 and then by the Dog Control Act 1975. These matters will be discussed by others at this conference.

## **INTRODUCING A NATURALISTIC PERSPECTIVE**

A naturalistic perspective augments the normative perspective. The latter provides effective urban animal management up to a point, but then begins to run into problems of implementation because many members of the community regard dogs as subjects, while others (particularly official policy makers) regard them as objects (see, for example, Bartlett 1992; Jennens 1992; MacCallum 1993).

The anthropologist Barbara Noske states the problem succinctly: 'as yet there exists in our thinking little room for the notion of a non-human Subject and what this would imply' (1989:157). Her comment is relevant to legislators, if not to dog keepers. The philosopher Mary Midgley observes: the 'question is what distinguishes man *among* the animals, not what distinguishes man *from* animals' (1978:203). These questions are addressed by the naturalistic perspective, which sees that human beings and dogs are animals whose convergent evolution has created an interdependency that needs to be taken into account by makers of public policy. The perspective argues that dog keeping be accepted by local governments as a merit<sup>4</sup> good as well as a private responsibility.

The naturalistic perspective allows an argument for *why* the wider community has a responsibility to promote dog keeping and *why* administrative systems will work better if they seek to deliver dog keeping as well as dog control. In short, the paper argues that a healthy community is one in which dog keeping is recognized as the natural need for at least a proportion of its members. This philosophy may be in conflict with views expressed by Baetz (1992:32): 'Let's face it folks; every one does NOT need a pet', or Hindle (1992:19): 'pet ownership is a privilege not a right' but it does allow a broader and arguably more productive view of the role of urban animal managers in society. It probably better reflects the real situation 'out there', anyway. As Shakespeare wrote in 1600:

Let Hercules himself do what he may, The cat will mew and dog will have his day. *Hamlet* V.i.286

The naturalistic perspective may provide food for thought for urban animal managers. In its later remarks the paper refers to organisations in the Australian Capital Territory (ACT). It is hoped that this mixture of the general and specific will provide information of value to the many groups represented here.

## **A NATURALISTIC PERSPECTIVE**

One can speculate that the dog existed well before the earliest accepted time of domestication, about 12,000 years ago (Davis and Valla 1978:608-10).

The assumption that human beings evolved slowly and gradually over a million years is now challenged on various fronts (see Nitecki and Nitecki 1994 for a recent debate). There appears to be agreement that anatomically modern human beings occurred for the first time in Africa or the Levant. Their occurrence may have been as recently as 100-80,000 years ago. Perhaps only 30,000 years ago, these human beings made some critical biological or cultural adaptation which enabled them to become dominant, either by replacing or by absorbing their neanderthal contemporaries (Coppens 1994; Stringer 1994:168; Bar-Yosef 1994:50; Trinkaus and Shipman 1993:413). It is tempting and plausible to suggest that the dog played a part in that process. An analysis of the root words of a possible 12,000 year old ancestor of Indo-European languages shows *kujna* for dog (Jones S. 1993:189).

An example of a model of human evolution suggested is that, as the climate changed in the Pleistocene period, evolving human beings increased their meat consumption to survive in the now arid savannahs. The hunting and eating of meat led to division of labour and the need for home bases. Since such bases may have been in short supply, they could have been the focus for intra-specific conflict. Within the human group, the need for cohesiveness led to evolution of group norms (Slurink 1993) aimed at survival of the group (see the Books of Moses as written examples). It is these norms which today legislation attempts to define.

Helmut Hemmer (1990:32-44) reviewed knowledge on the palaeontological record, social behaviour data, anatomy and serum protein patterns of wolf, coyote, jackal and dog. He concluded that the dog evolved from a primitive form of wolf in Arabia and South Asia. The primitive southern wolf form has persisted in relative evolutionary isolation, in comparison with its northern cousins, and is reflected in primitive dog forms such as the dingo, Basenji, Madagascar primitive dog, Samui and Southeast Asian pariah dog (also Groves 1993). Hemmer's review places the evolution of dogs in roughly the same area as evolution of human beings, if the above arguments are accepted.

A popular view of domestication of dogs is one where wolf pups were tamed as pets and came to be selected such that 'in time a separate kind of animal evolved, the *dog*' (Clutton-Brock 1987:38, her emphasis). In other words, the dog is man-made. This view is not universal, however. For example, Michael Fox's (1978) review of writers on the subject does not reach the same anthropocentric conclusion, and allows that the progenitor of the dog may have evolved from a wolf-jackal stem without human deliberation and perhaps as a separate 'species' which may still exist in pariah dog packs in India. The writer is in empathy with Fox after observing pariah dogs in India, and is more comfortable with the notion that the natural habitat of such dogs is human habitation than that they are man-made dogs which have become feral.

It is interesting that excavations of Lower Pleistocene human settlements at 'Ubeidiya in the Jordan Valley (Haas 1966:16-18) did uncover skeletal specimens of a canid thought to be larger than a jackal, but smaller than the Israeli wolf. Kolska Horwitz (1990:104-5) considers that dogs must be included in the list of carnivores potentially responsible for partly digested bones in Israeli archeological sites some 60,000 years old, but warns that the dogs may not have been domesticated. A naturalistic perspective can readily see early dogs, in a sense, infesting human home bases well before the human inhabitants took a liking (or a disliking!) to the dogs.

The idea can be taken further, if Charles Darwin's theory of natural selection is accepted. This theory may be recalled as 'one general law leading to the advancement of all organic beings, - namely, multiply, vary, let the strongest live and the weakest die' (1901:364). In light of the comments in the above paragraphs, it can be seen that in a situation of conflict between early human groups, dog infested human home bases would be advantaged by the dogs' advanced sensory capacities which would make them (the bases and the dogs) more difficult to attack successfully.

Thus the dog and human combination can be seen as a unit which can itself evolve - as argued by Richard Dawkins in his theory of the extended phenotype: '*An animal's behaviour tends to maximize the survival of the genes 'for' that behaviour, whether or not those genes happen to be in the body of the particular animal performing it*' (1982:233, his emphasis). It is possible to extrapolate the argument to one of human beings and dogs entering a genetic contract: human beings in dog infested home bases could have had higher survival rates because, by dividing the labour of sensory perception with the dog, human beings could concentrate on developing their capacity for organisation of the home base, and thus survive depredations by their own kind. For example, the superior olfaction permitted by a large face could be 'traded off' by early human beings for a flatter face better adapted for the complex vocalisation necessary for advanced organisation. A better organised home base might provide more reliable food sources for scavengers, including the evolving domestic dog, which also would be better protected against other predators. There would be survival advantages for the dog in further developing those traits which made it indispensable and endearing to its early human hosts.

These traits may then have been developed deliberately under a process of domestication by later human beings for economically rational reasons, as Clutton-Brock notes above, but it may be noted that the morphic plasticity of the dog itself can be seen as a survival trait. The validity of the concept of artificial selection thus can, in the broadest sense, be questioned. As Serpell notes, the dog may have played an active role in the selection process (1986:62).

Unfortunately, in the context of this conference, among the several traits of domestication is the characteristic of most domesticated dogs to breed at six monthly intervals, unlike their wild cousins which have annual breeding cycles (Scott 1967:377). Fox assumes that it was selective breeding which made the dog 'sexually promiscuous, precocious, and prepotent' (1978:38) because under domestication, natural ecological restraints no longer operate. He may have things around the wrong way: for the genes of the dog to survive in early human habitations perhaps it had to be fecund, either to be economically attractive to its human hosts or simply to survive as an initially unwelcome scavenger. It is thought provoking to note that similar selection pressures still exist in the form of breeding for markets, deliberate disposal of surplus pups, and dog catching policies.

The dog may have become locked into the contract with human beings by its innate imprinting behaviour (Scott 1967:375), by losing some of its capacity to appreciate the environment (Hemmer 1990), and certainly by a Faustian bargain with its human keeper: as Francis Galton noted in 1865, animals which were not refractory to domestication were 'doomed to be gradually destroyed off the face of the earth as useless consumers of cultivated produce' (cited by Clutton-Brock 1987:10). This gloomy prediction has proven fatally true for many species other than the dog, bearing out Darwin's corollary: 'what natural selection cannot do, is to modify the structure of one species without giving it any advantage, for the good of another species' (1901:106).

It is the modification in the behaviour of both species which perhaps binds or 'melts' (Darwin quoted in Degler 1991:7) them together. The melting may involve the genetic contract mentioned above. There is thus an explanation for the subjective relationship between some people and some dogs, and this subjectivity can be seen as heritable if Dawkin's (1989:44) idea of memes (replicators of cultural traits) is acceptable. Juan Delius (1989:26-79) does accept the idea, and postulates heritable neural patterns in the brain, with the capacity for imitation learning. Bonner argues that every aspect of the study of culture can 'benefit from some understanding of the biology from which it sprung' (1980:186).

Even though the human home base in Australia is often the single dwelling, the selective advantages to the community at large of dogs kept by at least a proportion of the people is readily clear. Rational reasons for keeping a dog by individuals need not be enlarged upon here.

Extra-rational effects of dog keeping can be explained by the evolved inter-dependency argued above. The psychologist Boris Levinson studies the therapeutic effects of pet keeping and develops the thesis that 'development over the (human) life cycle can be favourably influenced by close association with an animal companion, particularly during middle childhood and old age'<sup>5</sup> (1975:8-18; 1978:1031). His comments relate not only to the individual but to interactions within families and the community at large. Lago et al. (1988) refer to the 'first wave of intellectual excitement and theorizing' which followed Levinson's [and Konrad Lorenz'] work. They have tried to establish objective measurements for affection for pets. They note that relationships between people and pets are extremely complex and varied. This is not surprising if the relationship evolved over a long period. Fox (1978:182) refers to experiments which show that petting of a dog, especially by a familiar person, leads to a slowing of its heart rate. Anderson et al. (1992:150-53) report findings by Messent that blood pressure tended to fall in people in direct contact with animals, and also report their own findings which suggest that pet keeping might lower risk factors for heart disease. It seems that the feel of the dog may be a factor in mediating the effects among people who already like dogs or who at least feel neutral about them (Vormbrock and Grossberg 1988:509-17).

In the light of the observations above, it would seem that policies which prohibit or reduce access to dog keeping need to be appraised critically and not enacted until alternatives are considered. Basically, it is suggested that public policies which do not take into account the needs of pets may not cater for the needs of people either. Dogs and people have evolved convergently and have similar needs. The paper does not argue for dogs to have equal rights, however. The argument is unabashedly anthropocentric, for a naturalistic perspective illuminates public policy as a survival technique of our own species. Control of the dog as private property, as shown below, is a legitimate part of public policy, but is not the only choice available to urban animal managers.

Thus, to recap the discussion so far, a naturalistic perspective arguably can be used to augment the normative philosophy as an additional means to the end of human well-being.

## **COMMUNITY INVOLVEMENT**

A paradigm shift is required if urban animal management is to develop as a field of endeavour, as Richard Murray already notes (1993) in relation to efforts to control urban dog populations. The naturalistic perspective permits such a shift by recognising that the dog is a natural part of the human environment and that the natural habitat of the dog is the urban environment. This perspective recognises the community as the third dimension of an administrative equation, whereas the 'responsible dog ownership' perspective provides a two dimensional view of urban animal management.

If the value of the dog in the community is recognised, public funds can be directed to urban animal management, not merely to controlling dogs. A rigorous benefit cost analysis of dog keeping could be commissioned so that public resources can be allocated appropriately, equitably and efficiently<sup>6</sup>. The analysis needs to include quantification of the pet food industry and of the dog population in a community (as already is being done), but it should extend beyond these areas. The benefits of dog keeping to society need to be assessed in at least the following areas: urban security; recreation; companionship; economic activity and job creation; exhibition and tourism; comparative psychology and physiology. Costs would include urban animal management, public health, human injuries, pollution and so on. Rigorous benefit cost analysis is expensive. It perhaps can most practically depend upon comparative case studies.

The following comments are made on the assumption that a benefit cost analysis would demonstrate the overwhelming positive value of dog keeping in the community. The comments sketch out some ideas which may be of interest.

Public funds may be directed to bodies which have understood the nature of dogs and their relationship with human beings and which are actively engaged in promoting dog keeping. Such bodies include companion dog clubs, dog obedience schools and breeders' associations. Funds need not be sought only from local government. The Companion Dog Club of the ACT routinely takes dogs to institutions so that elderly and frail people may interact with what truly are community pets. Funds for this activity could be obtained from the Home and Community Services budget.

Michael Jones (1993:284-94) accepts that local governments face a fiscal crisis and need to look at novel ways of raising funds. The normative approach to dog control tends to preclude accessing private funds because of conflicts of interest, but a naturalistic appreciation of the importance of dog keeping could mean a devolution of much activity to non-government organisations in the community. This should overcome the current adversarial positioning of government *vis-à-vis* the dog keeper and improve good will. Would registration fees be more forthcoming in an atmosphere of good will towards dog keeping? Can registration be argued, within the naturalistic perspective, as being a rent charged to the dog keeper for the use of scarce public resources, the rent being assessed according to the benefits as well as the costs to the community of dog keeping? This paper argues in the affirmative.

If local governments can create an atmosphere of good will towards dog keeping, the general community may follow suit. For example, a student in Canberra annoyed by a bored dog barking next door asked the keepers of the dog if she could take it for walks while they were at work. They refused. A link which could have been made between members of the community failed. Perhaps her suggestion would have been accepted if community 'sharing' of pets was more widely publicised. Certainly the bored dog left at home while its keepers are at work is not an issue to be dismissed simply by judging its keepers to be 'irresponsible'. In the sense of using the dog to protect their house, they are being socially responsible. Robert Holmes (1993:191-7) prescribes 'environmental enrichment' for what he terms the B.A.D. dog - bored, aggressive and destructive. What could be more enriching than a good walk? 'Sharing' of neighbourhood dogs may seem far fetched, but it does happen, and could be encouraged.

Does the fiscal crisis which local governments face also result in a knowledge crisis in relation to urban animal management? It does seem that there is considerable expertise in wild animal management at State and Commonwealth funded levels, such as government departments and universities, but little of this expertise is utilised in the study of urban animals, even though these animals are often seen as impacting on wildlife. The research of Murray (in Murray and Penridge 1992:85-110) on dogs in Townsville and Coman and Robinson (1989:30-2) on straying dogs are exceptional examples. There is a need for theoreticians, such as Jackson, Fink and Holmes in the field of town planning, urban design and animal behaviour (Jackson 1993), to inform local governments.

A naturalistic perspective allows ideas to be extended laterally into the urban environment. For example, thought is being given to the biological reduction of dog faeces by worms and dung beetles. Doug Trehane (1994:693) argues that the environmental effect of a dog's faeces can be ameliorated by modifying its diet<sup>7</sup>. Exercise areas can be provided in urban areas (the ACT Government already provides leash-free running and swimming areas for dogs). These areas could be mown so that grassy areas on which people can walk, are provided, and these could be combined with roughly mown areas where dogs tend to urinate and defaecate. Policies which ignore the animal natures of people and their pets, such as the ban on front fences which exists in the ACT, would be rethought. The siting of paths directly abutting property boundaries could be rethought, as could the routine use of asphalt and concrete in public areas. Over-zealous application of leash laws would be seen as counter-productive in some areas - where leashed dogs belonging to 'responsible' owners are forced to defaecate next to paths, for example.

Public policy makers in Australia and overseas increasingly have to attend to the problems associated with higher densities of people as urbanisation proceeds inexorably. Such concentration can lead to social conflict. Analysis of over 1,000 job cards as a sample of the activity of the ACT Dog Control Unit since self-government<sup>8</sup> (Paxton 1993 unpublished) suggests the importance of the Unit in managing conflict in the suburbs. 'Dog control' thus is really a misleadingly narrow view of the work of the Unit.

There is a view that increasing the cost of purchasing a dog will make people more 'responsible' (for example, see Baetz 1992:31). Implementing these views may make it more difficult for poorer people to have a dog, but is this a good policy for local government to have, given its role of representing grass-roots interests equitably? The naturalistic perspective would suggest that deliberate manipulation of the price of a dog or prejudging potential keepers is unfair if dog keeping is a right, because poorer people are equally entitled to the companionship and protection a dog affords. It is arguable also that increasing the price of owning a dog leads to the demand for choice. Economic theory would suggest that if the price of dogs is inflated artificially the supply will rise also. There will not be the same negative feedback as exists in a perfect market because excess pups can be euthanased. Artificially inflated prices may thus result in greater animal welfare problems. The situation would exert a selective pressure for dogs which are reproductively prolific.

Since the naturalistic perspective has an empirical base, its application is less likely to jar in a diverse and multicultural Australia than is the promulgation of values of dominant or vociferous sections of the community. Urban animal managers occasionally become used as pawns in class games of one sort or another, and need to have a robust perspective to resist being drawn into 'play'.

## CONCLUDING COMMENT

The fifty cent coin issued for the Year of the Family includes the family dog on one face. However, the historian Graham Gittins (1983:68-9) may well be correct in considering that the best known Australian dog icon is probably the statue beside the road just north of Gundagai:

And the dog sat on the tucker box  
Nine miles from Gundagai.

This is the icon of the dog as faithful companion. It is an extract from the poem by Jack Moses, but Gittins points out that this is not the only version of the poem. Historical records held at the Gundagai District Hospital provide this earlier version:

For Nobby Jack has broke the yoke,  
Poked out the leader's eye  
And the dog ..... in the tucker box,  
Five miles from Gundagai.

On a bad day in the life of that bullock driver, the mischievous dog must have been the last straw. The *persona* of the dog depends a lot on ones point of view at the time. This paper suggests an explanation as to why the relationship with dogs has prevailed, and why it is in our interests that it continue to do so. A naturalistic perspective holds promise for developing broader, and more creative, effective and efficient policies for urban animal management.

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## Footnotes

<sup>1</sup> Hobbes' statement is a rather less creative version of the Biblical statement in *Luke 6:31*: 'and as yet would that men should do to you, do ye also to them likewise'. Hobbes saw life fundamentally as 'every one against every one' (Hobbes 1881:97)

<sup>2</sup> Information provided by Gerry Walsh, Australian Defence Force Academy

<sup>3</sup> Quotation provided by Gerry Walsh, Australian Defence Force Academy

<sup>4</sup> A merit good is one which society thinks people should have, no matter what their incomes are (Fischer et al. 1988:68)

<sup>5</sup> A less anthropocentric but more naturalistic version of his statement would be that the absence of companion animals is unfavourable for human development!

<sup>6</sup> Kibble (1994:7) reports a proposed study, though it is not clear that the costs as well as the benefits of pet keeping will be addressed

<sup>7</sup> Some commercial dog foods also may have this attribute, according to Jenny Wingham (Uncle Ben's Australia) speaking to a meeting of the Australian Veterinary Association (ACT) in Canberra, 24 August 1994

## REFERENCES

- Anderson, W.P., Reid, C.M. and Jennings, G.L. 1992. 'Is pet ownership good for your heart? The results of a survey of risk factors for cardiovascular disease in Melbourne, Australia', in R.W. Murray (ed.), *Urban Animal Management: proceedings of the first national conference on urban animal management in Australia*, Chiron Media, Mackay:150-3.
- Baetz, N. A. 1992. 'Why we need animal control', in R.W. Murray (ed.), *Urban Animal Management: proceedings of the first national conference on urban animal management in Australia, Brisbane*, Chiron Media, Mackay:28-35.
- Bartlett, B. 1992. 'The depriving face of control in urban animal management', in R.W. Murray (ed.), *Urban Animal Management: proceedings of the first national conference on urban animal management in Australia, Brisbane*, Chiron Media, Mackay:70-80.
- Bar-Yosef, O. 1994. 'The contributions of Southwest Asia to the study of the origin of modern humans', in M.H Nitecki and D.V. Nitecki (eds), *Origins of Anatomically Modern Humans*, Plenum Press, London:23-66.
- Bonner, J.T. 1980. *The Evolution of Culture in Animals*, Princeton University Press, Princeton.
- Brown, R. 1984. *The Nature of Social Laws: Machiavelli to Mill*, Cambridge University Press, Cambridge.
- Clutton-Brock, J. 1987. *A Natural History of Domesticated Mammals*, British Museum (Natural History) in association with Cambridge University Press, Cambridge.
- Coman, B.J. and Robinson, J.L. 1989. 'Some aspects of stray dog behaviour in an urban fringe area', *Australian Veterinary Journal*, 66(1):30-2.
- Coppens, Y. 1994. 'The East Side Story: the origin of humankind', *Scientific American*, May:62-9.
- Darwin, C. R. 1901. *The Origin of Species: by means of natural selection or the preservation of favoured races in the struggle for life*, John Murray, London.
- Davis, S.J.M. and Valla, F.R. 1978. 'Evidence for the domestication of the dog 12,000 years ago in the Natufian of Israel', *Nature*, 276:608-10.
- Dawkins, R. 1982. *The Extended Phenotype: the gene as the unit of selection*, W.H. Freeman and Company, Oxford.
- Degler, C.N. 1991. *In Search of Human Nature: the decline and revival of Darwinism in American social thought*, Oxford University Press, New York.
- Delius, J.D. 1989. 'Of mind memes and brain bugs: a natural history of culture', in W.A. Koch (ed.), *The Nature of Culture: proceedings of the international and interdisciplinary symposium, October 7-11 1986, in Bochum*, Studienverlag Dr. Norbert Brockmeyer, Bochum, Federal Republic of Germany:26-79.
- Fischer, S., Dornbusch, R. and Schmalensee, R. 1988. *Economics*, McGraw-Hill, New York.
- Fox, M.W. 1978. *The Dog: its domestication and behavior*, Garland STPM Press, New York.
- Gittins, G. 1983. 'The dog did what?', *Historic Australia*, 1:68-9.
- Governors' Despatches to and from England 1788-1796, 1914. *Historical records of Australia, Series I*, volume 1, The Library Committee of the Commonwealth Parliament.
- Groves, C.P. 1993. *The Domestication of Animals*, videotape, Australian National University, Canberra.

- Haas, G. 1966. *On the Vertebrate Fauna of the Lower Pleistocene Site 'Ubeidiya*, Israeli Academy of Sciences and Humanities, Jerusalem.
- Hemmer, H. 1990. *Domestication: the decline of environmental appreciation*, Cambridge University Press, Cambridge.
- Horwitz, K. 1990. 'The origin of partially digested bones recovered from archaeological contexts in Israel', *Pale orient*, 16(1):97-106.
- Hindle, A. 1992. 'Designing community education programs to promote animal welfare: the RSPCA's experiences', in R.W. Murray (ed.), *Urban Animal Management: proceedings of the first national conference on urban animal management in Australia, Brisbane*, Chiron Media, Mackay:11-27.
- Hobbes, T. 1881. *Leviathan, or the Matter, Forme, and Power of a Commonwealth: ecclesiastical and civil*, James Thornton, Oxford (reprint of 1651 first edn).
- Holmes, R. 1993. 'Environmental enrichment for confined dogs and cats', in R. Holmes (Technical Coordinator), *Animal Behaviour*, Postgraduate Committee in Veterinary Science, University of Sydney, Sydney:191-7.
- Jackson, V. 1993. 'Strategic planning and design of urban developments and housing', in D.W. Paxton (ed.), *Urban Animal Management: proceedings of the second national conference on urban animal management in Australia, Penrith*, Australian Veterinary Association, Artarmon:45-59.
- Jeffery, W. and Shaw, A.G.L. 1965. 'First Fleet', in *The Australian Encyclopaedia*, The Grolier Society of Australia, Sydney:72-6.
- Jennens, G. W., 1992. 'The role of research and behaviour in legislation and community attitudes', in R.W. Murray (ed.), *Urban Animal Management: proceedings of the first national conference on urban animal management in Australia, Brisbane*, Chiron Media, Mackay:172-192.
- Jones, M.A. 1993. *Transforming Local Government: making it work*, Allen and Unwin, Sydney.
- Jones, S. 1993. *The Language of the Genes: biology, history and the evolutionary future*, Flamingo Harper Collins, London.
- Kibble, R. 1994. '\$2 billion industry under threat', *The Veterinarian*, July:7.
- King, P.G. 1801. Government and General Order, 17 February, *Historical Records of New South Wales*, 4:303.
- Lago, D., Kafer, R., Delaney, M. and Connell C. 1988. 'Assessment of favorable attitudes towards pets: development and preliminary validation of self-report pet relationship scales', *Anthrozoos*, 1(4):240-54.
- Levinson, B.M. 1978. 'Pets and personality development', *Psychological Reports*, 42:1031-38.
- Levinson, B.M. 1975. 'Pets and environment', in R.S. Anderson (ed.), *Pet Animals and Society*, British Veterinary Association and Bailliere Tindall, London:8-18.
- MacCallum, M. 1993. 'Owning pets in today's society', in D.W. Paxton (ed.), *Urban Animal Management: proceedings of the second national conference on urban animal management in Australia, Penrith*, Australian Veterinary Association, Artarmon:8-20.
- Midgley, M. 1978. *Beast and Man*, Harvester Press, Sussex.

Murray, R.W. 1993. 'Unwanted pets', in D.W. Paxton (ed.), *Urban Animal Management: proceedings of the second national conference on urban animal management in Australia, Penrith*, Australian Veterinary Association, Artarmon:60-80.

Murray, R.W. and Penridge, H. 1992. *Dogs in the Urban Environment: a handbook of municipal management*, Chiron Media, Mackay.

Nitecki, M.H. and Nitecki, D.V. (eds) 1994. *Origins of Anatomically Modern Humans*, Plenum Press, New York.

Noske, B. 1989. *Humans and Other Animals: beyond the boundaries of anthropology*, Pluto Press, London.

Paxton, D.W. (1993 unpublished). Work-in-progress report to Minister for Environment, Land and Planning (ACT), 4 November.

Public General Statutes of New South Wales: from 5th Geo. IV. to 8th Will. IV., inclusive (1824-1837), 1861. Thomas Richards, Government Printer, Sydney.

Scott, J.P. 1967. 'The evolution of social behavior in dogs and wolves', *American Zoologist*, 7:373-81.

Serpell, J.A. 1986. *In the Company of Animals: a study of human-animal relationships*, Basil Blackwell, Oxford.

Slurink, P. 1993. 'Ecological dominance and the final sprint in hominid evolution', *Human Evolution*, 8(4):265-73.

Stringer, C.B. 1994. 'Out of Africa - a personal history', in M.H Nitecki and D.V. Nitecki (eds), *Origins of Anatomically Modern Humans*, Plenum Press, London:149-72.

Thomas, K. 1983. *Man and the Natural World: changing attitudes in England 1500-1800*, Allen Lane, London.

Trehane, D. 1994. 'Client notes: feeding your pet fresh raw bones', *Control and Therapy Series*, Mailing 179:693.

Trinkaus, E. and Shipman, P. 1993. *The Neandertals: changing the image of mankind*, Alfred A. Knopf, New York.

Vormbrock, J.K. and Grossberg, J.M. 1988, 'Cardiovascular effects of human-pet dog interactions', *Journal of Behavioral Medicine*, 11(5):509-17 (Sociological Abstracts 1989).

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