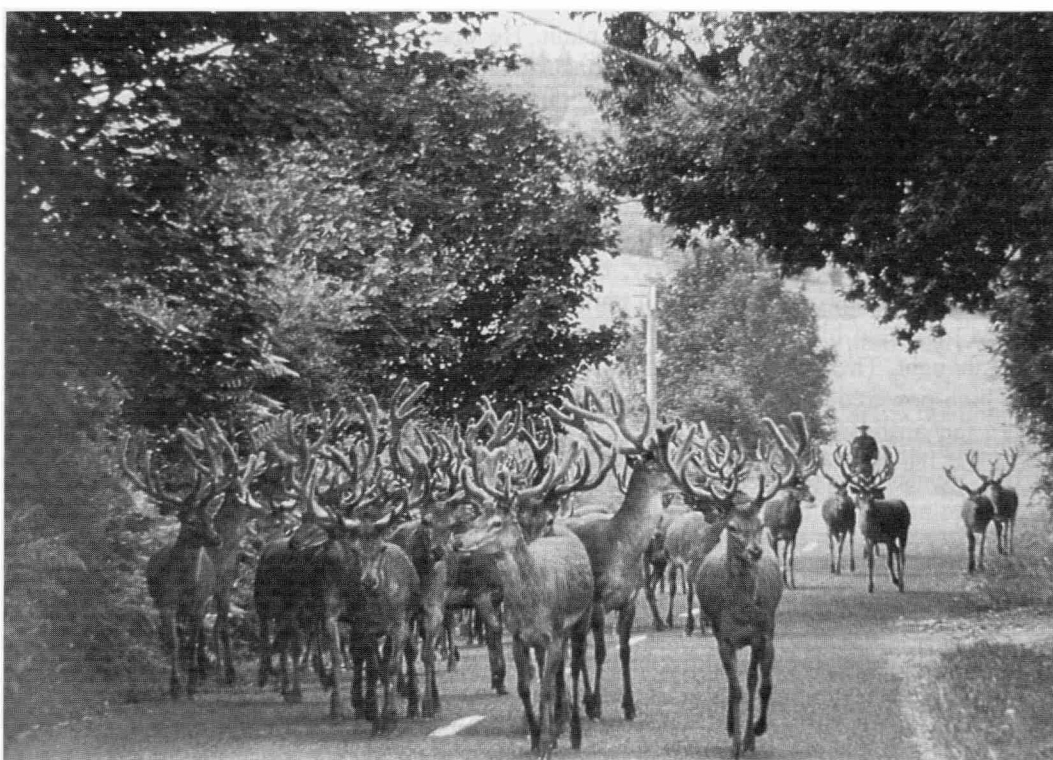


acknowledge that the farmed red deer has become a domestic, or even a partly domesticated animal. They fulfil all the basic requirements set by Charles Darwin's cousin, Sir Francis Galton, in Victorian times, but some cultural barrier, or something deep within the psyche of some well-respected authors has thrown up a mental block to the facts.

All in all this is a thoroughly entertaining read, whether you are a deer farmer, a scientist, or a person who enjoys an account of rural life interspersed with acute observation of changes in the way humans relate to one another, and to the animals around them. For the deer farmer it should be a standard text.

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*(Photo: J Fletcher)*

***A Natural History of Domesticated Mammals, 2nd edition***

Juliet Clutton-Brock (1999). Cambridge University Press: Cambridge. 238pp. Hardback and paperback. Obtainable from the publishers, The Edinburgh Bldg, Shaftesbury Rd, Cambridge CB2 2RU, UK (ISBN 0521632471 hardback or 0521634954). Price £60.00 hardback or £22.95.

The first edition of this book was called *Domesticated Animals from Early Times* and was published in 1981. At that time, the book was an invaluable addition to the literature since little had been written since Zeuner's *History of Domesticated Animals* had appeared in 1963. This new edition is justified by Juliet Clutton-Brock on the grounds that there has been much progress in archaeological research aided by the application of new DNA analytical

techniques and, she points out, an 'appreciation of the ancient breeds of livestock...[and]...the realisation that the policy of "improvement" of native breeds ...has...often been misguided.' 'Above all', she states, 'there has been great improvement in attitudes to animal welfare and to the farming of carnivores for their furs which is being progressively outlawed'.

It is a bit disappointing, therefore, to find that the changes made are really rather slight. In the few paragraphs devoted to the carnivores kept for fur, I could only find one change, the omission of a single sentence, between the new and the original editions. Similarly, while the development of DNA analysis techniques and their application to archaeology is referred to in the 'Introduction' as one of the reasons for revising this book, it is surprising to find that such new techniques are rarely mentioned in the text. Even the chapter on 'The geography of domestication' is virtually unchanged from the first edition.

It is also the case that, since 1981, there has been a great deal of discussion of the importance of domestication and much has been published. MacNeish's *The Origins of Agriculture and Settled Life* (1991), and Bruce Smith's *The Emergence of Agriculture* (1994) do not rate a listing in Clutton-Brock's bibliography. Nor does Jared Diamond, who in *Guns, Germs and Steel* (1997) made many highly interesting and provocative statements about the importance of domestication – including that it is the absence or presence of suitable potential domesticates which has determined the material success of the world regions. Diamond is less controversial in stating that it was only through domestication that families became tribes, tribes clans and clans nations; that the settled life permitted urbanization, the development of writing and all that has followed. Thus, we see that domestication was perhaps mankind's most pivotal achievement. Sadly, Clutton-Brock does not allow herself to allude to these populist ideas and that is a pity because these aspects of domestication are exciting. It would have been good to know where she stood.

In 1981, it was perhaps just forgivable to dismiss the farming of red deer as an exercise in taming rather than a genuine domestication (although, even then, there were over 100 000 animals being farmed on over 1500 farms in New Zealand). Clutton-Brock said then of the deer being farmed at Glensaugh in Scotland, that they 'cannot really be counted as successful domestic animals'. She used this assertion to confirm her thesis that 'it is just not possible to impress upon adult red deer that they are a part of human society which is in effect what has been achieved with all the species of true domestic animals'. She says that 'the reasons for this are that the deer ... are territorial animals which although they live in groups or herds do not have a social structure that is based on dominance hierarchies.' In adopting this approach, she is subscribing to the theories first propounded by Galton in 1865 and endorsed by many writers since.

However, the success of the deer farming industry cannot be ignored. Clutton-Brock defines a domesticated animal as one which 'has been bred in captivity for purposes of economic profit to a human community that maintains total control over its breeding, organization of territory, and food supply.' New Zealand (see photo, overleaf) now has around 2 million farmed deer that conform in every way to all definitions of domestication, while Australia, Canada, the USA and Europe all have developing deer farming industries. With this background, it is astonishing that Clutton-Brock has left the section on deer unchanged from her 1981 edition. It would seem that either deer are not as territorial as Valerius Geist and others have asserted – or territorial animals can be domesticated.

It seems to me more likely that red deer were not domesticated in the Mesolithic because they could easily be tempted to browse, possibly ivy, provided by man, and selectively

culled. Therefore, the reason they were never domesticated was actually economic rather than behavioural. Clutton-Brock also seems to ally herself to Ingold in arguing that 'hunter-gatherers practise a conscious policy of conservation' in voluntarily limiting their kills. This is not a view held by all workers and seems at variance with her own statement that the Mesolithic peoples of Europe 'would kill whatever they could whenever they could'.

Much less important, but nevertheless disconcerting, is Clutton-Brock's sweeping statement asserting of red deer that 'at the present day as soon as the antlers are shed, after the rut, the deer will chew and gnaw at them, actually consuming the greater part of the bone....' It is only at a very few sites, presumably those of great mineral depletion, that deer will gnaw cast antlers and of course antler casting succeeds the rut by about four months.

After these criticisms, mostly within my own area of expertise, it is time to praise those many parts of the book that will appeal. One short new section, at the end of Chapter 2, entitled ambitiously, 'Are domestic animals conscious beings?' looks briefly at this question from the cognitive ethological viewpoint and then goes on to mention the European Union's 1997 redefinition of farm animals as 'sentient beings'. Wisely, Clutton-Brock ends the chapter by quoting Jeremy Bentham writing nearly 200 years ago: 'The important question is not can they reason, nor can they talk, but can they suffer?'

In attempting to improve the welfare of domestic animals an understanding of their origins is probably useful – but we should remember the plasticity of a species and the extreme selection pressures which mankind can exert once a species is in captivity. While it may or may not be correct to dogmatically assert that only gregarious species with linear dominance hierarchies are susceptible to domestication, the fact is that where there is an economic need to exploit a species then modern techniques can usually confine and control the breeding of that species. However unpalatable that may seem, it may be a much lesser evil than cropping the animal's wild relatives; and, once the breeding is under control, it behoves those with animal welfare interests at heart, to ensure that behavioural characters are high on the list of criteria. We know that once the effort was made to select for docility among foxes in fur farms it took only a very few years to achieve a strain that was relatively content. Our Mesolithic ancestors must have had docility high among their, perhaps unconscious, selection criteria; let us follow suit.

In conclusion, this book remains a useful source book for anyone interested in the increasingly topical history of domestication. It is highly readable with excellent line drawings and many photographs. Its reissued and revised form meets a need – even if it seems to add little to the first edition.

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### ***Laboratory Animal Law***

Kevin Dolan (2000). Blackwell Science Ltd: Oxford. 225pp. Paperback. Obtainable from, Marston Book Services, PO Box 269, Abingdon, Oxford OX1 4YN, UK (ISBN 0632052783). Price £24.99.

This book is intended, according to the author's Preface, to give those involved with the use of animals in research 'an overall view of their legal obligations towards the animals in their care.' The legal obligations referred to are specifically those that apply within the United Kingdom. In view of the regularity with which the Animal Procedures Committee (APC) points out that most infringements under the *Animals (Scientific Procedures) Act 1986*