THE CONTRIBUTION OF ANIMAL DOMESTICATION TO THE SPREAD OF ZOONOSES: A CASE STUDY FROM THE SOUTHERN LEVANT

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Abstract - The advent of animal domestication was associated with marked changes in human-animal interactions, a process that had a significant impact on both parties. In animals these changes are expressed in features such as biogeography, morphometry and pathology. In humans they are reflected in changes in health, disease and demography as well as in social complexity. Current research on the origin and spread of emerging diseases, suggests that many infectious diseases common today originated in the process of animal domestication. The archaeological record of the Southern Levant (Lebanon, Southern Syria, Jordan, Israel and the Sinai Peninsula) provides an example of the possible role of animal domestication in spreading zoonoses.

Résumé - La contribution de la domestication animale à la diffusion des zoonoses: le cas du Levant méridional. Le début de la domestication animale a été associé à des changements remarquables des interactions homme-animal, ce qui eut d'importantes conséquences autant sur les hommes, que sur les animaux. En ce qui concerne les animaux, ces changements ont eu des conséquences de nature biogéographique, morphométrique et pathologique. En ce qui concerne l'homme, ils peuvent être corrélés à des changements de l'état de santé, de démographie et de complexité sociale. Des recherches en cours sur l'origine et la diffusion des maladies, suggèrent que plusieurs pathologies infectieuses aujourd'hui fréquentes trouvent leur origine dans le processus de la domestication animale. La documentation archéologique du Levant méridional (Liban, Syrie méridionale, Jordanie, Israël, Péninsule du Sinaï) fournit des exemples du possible rôle joué par la domestication animale dans la diffusion des zoonoses.

Key-words: Animal domestication, Zoonoses, Southern Levant.
Mots clés: Domestication animale, Zoonoses, Levant méridional.

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1. Introduction

The effect of the "Agricultural Revolution" on health status and nutrition has been discussed at great length in the scientific literature (Cockburn, 1971; Cohen & Armelagos, 1984; Cohen, 1989). As noted by Brothwell (1978), it constituted "a mixed blessing". On the one hand, it expanded the quantity and availability of food all year round. On the other hand, it was associated with marked changes, often deleterious, in the pattern of human disease. Several factors have been proposed to account for this shift in human health status. They include increased sedentism and population density, disease incidence and poorer nutrition reflected in variety and quality of foods consumed (Cohen & Armelagos, 1984; Cohen, 1989; Smith & Horwitz, 1998).

In this context, the role of animals as a source of infectious disease has been dealt with in the zoological and archaeological literature only in a cursory manner (Brothwell, 1978; Cohen, 1989; Siegel, 1976). However, the important role of animals as hosts and carriers of infectious diseases, at the present time (Twigg, 1980; Beran & Steele, 1994) suggests that changes in animal-human inte-