# ADAPTED OR PREADAPTED: A CLINICAL PERSPECTIVE

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**Abstract**

*The examination of more than seven years of veterinary medical records indicates that the environment is overtly antagonistic to the species with which it interacts. Preadaptation to the environment rather than adaptation would seem more consistent with survival, even within the narrowly defined niche of domestication.*

## Introduction

Williams (1990, p. 144) writes,

> Evolutionists feel that nature (natural selection) operates on an organism and it evolves a solution to an environmental problem and survives in a particular niche of the natural world. A creationist believes that an organism present in a harsh environment is 'preadapted' to survive. The omniscient Creator designed the particular creature to be successful in its intended niche.

Just how the environment impacts organisms, what types of problems it presents to them, and the intensity with which it makes its demands can be ascertained by examining morbidity and mortality in animal groups. The medical records of my verterinary practice on the northern plains provided the data which follow. The distribution of animal types is roughly 50% companion animals, 40% food animals, 10% equine, with a few wildlife and exotic patients. My study of 5,763 cases began with those animals presented in the summer of 1971, and covered the following 87 months. Only those cases involving treatment or diagnosis were considered. Elective and prophylactic procedures were not counted.

## Conduct

Each case was considered with respect to etiology and the body system or systems affected. Disease was categorized into congenital, degenerative, endocrine, immunologic, metabolic, neoplastic, non-specific (opportunistic) infections, parasitic, physical influences (climatic stress, trauma, competition/predation) and specific infections.

Body systems used were alimentary, circulatory, endocrine, urogenital, lymphoreticular, integumentary, musculoskeletal, nervous, respiratory, and special senses. For example, a neonatal diarrhea of calves (calf scours) caused by a coronavirus would be listed under specific infections and the alimentary tract. Conditions of multiple etiology or those affecting more than one body system were listed accordingly.

## Results

*Categories of Disease*

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|---|---|
| Physical influences | 31.6% |
| Specific infections | 26.0% |
| Non-specific infections | 13.6% |
| Immunologic | 2.9% |
| Metabolic | 1.9% |
| Degenerative | 1.9% |
| Neoplastic | 1.2% |
| Endocrine | 0.6% |
| Congenital | 0.3% |

*Body Systems*

| | |
|---|---|
| Alimentary | 46.6% |
| Integumentary | 19.9% |
| Respiratory | 10.0% |
| Urogenital | 8.4% |
| Musculoskeletal | 6.9% |
| Endocrine | 3.4% |
| Circulatory | 3.0% |
| Lymphoreticular | 0.7% |
| Nervous | 0.7% |
| Special senses | 0.6% |

## Discussion

It is immediately apparent that 91.2% of the causes of clinical disease are not the result of the failure of internal homeostatic mechanisms, but are found in the animals' environment: physical influences, specific and non-specific infections, and parasitism. Even the remaining 8.8% contains conditions indirectly due to such factors, such as squamous cell carcinomas arising from actinic lesions and degenerative joint disease secondary to trauma.

Regarding the body systems affected, 84.7% of clinical disease occurred in tissues that were in direct contact with the environment (integument) or communicating with it by way of body orifices (respiratory, alimentary, and urogenital). The keratinized integument with its dense microbial flora, the respiratory tract's mucociliary blanket and locally secreted antimicrobial agents (e.g. interferon), and the unidirectional flow (wash-out) of the urinary tract are just a few of the many extraordinary barriers to invasion displayed by these systems.

These partitioning and excluding mechanisms cannot exist in some semi-developed state while the organism's genetics "experiment" with a solution to an environmental challenge. The real challenge is survival, and an animal whose mucociliary blanket is compromised becomes pneumonic. The urinary tract with either stasis or reflux becomes nephrotic.

## Conclusion

This particular study utilized domestic animals almost exclusively. Domestication includes at least some protection from the climate, the widespread use of parasiticides, immunization against specific infectious agents, management of competition and predation, and an uninterrupted food supply. The significance of this is that, without husbandry (or under less intensive husbandry) the percentages of disease caused by environmental factors would be even greater proportionally.

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The likelihood of a species being successful without preadaptation would be even less under these proposed "primitive Earth" conditions than within the limits of modern animal husbandry from which these data were derived. Even here, the sum of edaphic, climatic, microbial, and competitive factors is clearly antagonistic towards the survival of the species involved.

Regarding the question of adaptation vs. preadaptation, the testimony of animal populations is that their existence can best be explained in terms of God's having created them in all their unfathomable intricacy, each kind perfectly fitted by Him at creation to survive the challenges of life on Earth. Perhaps the phrase, "survival of the fittest," should be replaced by "survival of the fitted," and appropriated by creationists?

### Reference

Williams, Emmett L. 1990. Possible variability in living organisms—a review of CRSQ writings. *Creation Research Society Quarterly* 27:144-149.

## Educational Column

# THE ROLE OF STELLAR POPULATION TYPES IN THE DISCUSSION OF STELLAR EVOLUTION

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### Abstract

*Stars can be grouped into two general types called population I and population II. The criteria for classification include space velocity, location in the galaxy, composition, differences in distribution on the Hertzsprung-Russell diagram, integrated color, and the presence of nearby dust and gas. The current evolutionary theory of stellar evolution and galaxy formation succeeds in giving a qualitative explanation for the population types. In establishing a creation model of stellar (and galactic) astronomy, it is important to keep in mind the two different populations. If an alternate model is to be taken seriously, then the observed population types should be explained in a very plausible fashion.*

### Introduction

In a recent paper Faulkner and DeYoung (1991) briefly surveyed the state of creationist astronomy. It was noted that most work to date has been primarily concerned with the ages of solar system objects or with criticism of the current standard (Big Bang) model of the universe. This trend has overlooked the middle scale of stellar astronomy between these two extremes. For several decades astronomy has been dominated by the concept of stellar evolution which has achieved some success in giving a natural and totally physical explanation for a great number of observed properties of stars. Not much of this has been challenged by creationists and it was the purpose of the paper of Faulkner and DeYoung to call attention to this deficiency and spark discussion on these matters. To this end that paper presented a very brief discussion of stellar structure and its relation to the development of stellar evolution. The Hertzsprung-Russell (H-R) diagram was described, as well as its importance in interpretation of stellar evolution. Several predictions of theoretical stellar evolution and purported observational evidences were presented without comment in that paper as well. This included the coincidence in location and age of planetary nebulae with white dwarfs and the coincidence in location and age of supernova remnants with neutron stars.

In addition the previous paper briefly discussed the differences in observed H-R diagrams of globular and open star clusters. These differences qualitatively agree with the predictions of stellar evolution for young clusters (open clusters) and for old clusters (globular clusters). Armed with the results of stellar evolution it is generally argued that certain features of the H-R diagram, such as the turn off point can be used to determine the age of a particular cluster.

This paper will develop the differences between the two types of clusters further and expand those differences to all stars. The parlance for this is stellar populations, and the two populations will be defined and examined. Very little creationist criticism or commentary will be provided here: the purpose of this paper is to inform readers interested in developing a creationist astronomy of some of the stellar features that should be kept in mind with the goal of explaining them from the creationist perspective.

### Stellar Populations

The Milky Way galaxy is believed to be a disk with a fainter, but massive, roughly spherical halo that is concentric with the disk (see Figure 1). The galaxy has a total mass of at least 100 billion, and perhaps as much as 250 billion, times that of the sun. The luminous disk appears to contain most of the brightest stars and is about 100,000 light years across, while it is only a few thousand light years in thickness. There is a thickening of up to perhaps 10,000 light years at the center of the disk, a feature called the nucleus. Most of the hotter and brighter stars in the disk are found in spiral arms that extend from the nucleus, and the Milky Way, along with other similar appearing galaxies, are thus called spiral galaxies. The halo is a fainter, roughly spherical distribution of stars that is concentric with the disk as well. Despite being fainter, the halo does

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