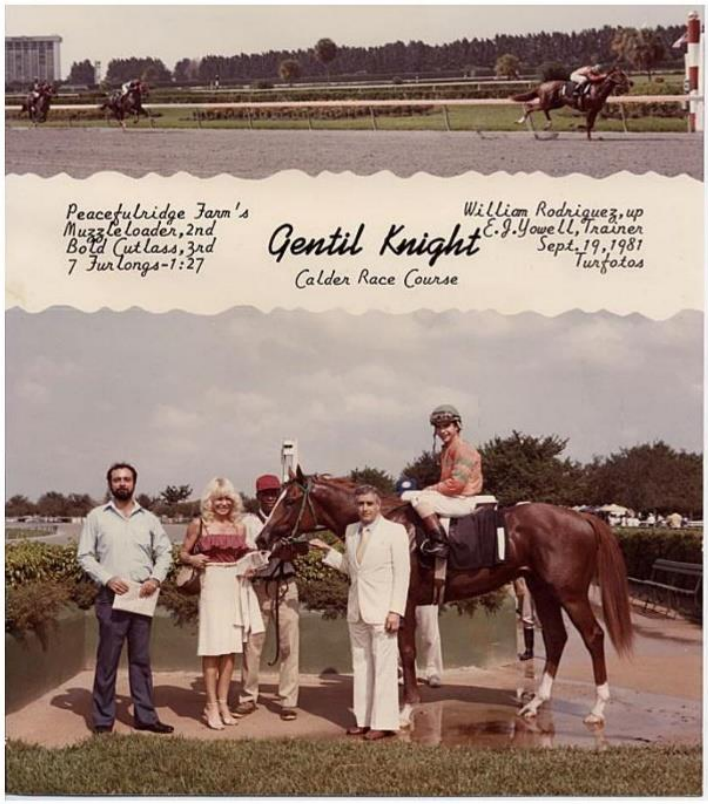
Appendix 15 – Proposal to Mr. Pollack



Mr. Pollack and one of his winning horse

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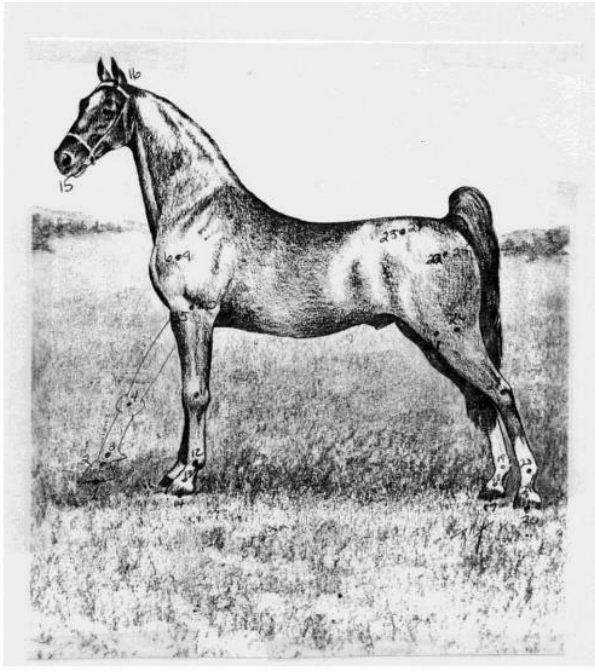
BIOMECHANICAL ANALYSIS OF THOROUGHBRED HORSES;
INITIAL PHASE



Introduction

The present biomechanical analysis of thoroughbred horses was designed for several purposes which include identification of characteristics which contribute to successful racing. In addition, attention will focus on the isolation of those factors which can be manipulated in order to optimize a horse and, thus, improve the chances of winning.

Research on the available information revealed that the field of horse racing is in the Dark Ages with most knowledge based on hearsay, guesswork, and tradition. Few people incorporate scientific knowledge, such as physiology or physics, in the training regimen. Since all objects on earth must obey the same laws of motion, the forces created by and acting upon horses depend on biomechanical characteristics. The objective is to identify those parameters that will optimize selections of new horses, training of young as well as active animals, and maximize the forces produced in the performance.

Method

The present study utilized a biomechanical analysis system whereby high speed cinematography was initially processed with a sonic digitizer with subsequent computerized data calculations resulting in three dimensional analyses. The graphic system permits many features including real-time scaling and rotation in three dimensional space. This sophistication allows examination and measurements in any plane of motion, such as the view underneath, overhead, side, or any combination of these views.

Important Parameters

To analyze a horse, the question arises regarding the importance or significance of the various parameters relative to their contribution to a successful running motion. Twelve horses were analyzed as