Horse Equals Mass Times Acceleration

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Abstract

The reclamation of a hitherto lost scientific discovery is considered and mathematical tests confirm the reasonability of the suggestion that horse is equal to mass times acceleration. Implications for other mass and acceleration derived formulae are considered.

Introduction

The steady development of equine technology over the past several centuries has led to such influential discoveries as the horse and cart, canine feed and gelatinous desserts. Yet despite the lasting influence of this fraternal bond between horse and man in the realm of science, recent findings suggest that perhaps the most important scientific-equine discovery ever made was lost in a vacuum of Japanese obscurity during the mid-twentieth century.

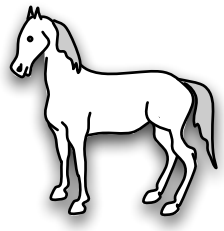
The pages that follow detail the rigor involved in the reclamation of one all but lost piece of science. Beginning with a description of historic context, this paper will identify the theoretic implications of one of the most startling discoveries ever made in the field of *physics*, a tangential area of science of which we understand very little.

Discovery!

Among the textbooks and catalogues of medical oddities found within the dank basement of the Matsuyama Memorial Hall Adjunct Library at Tokyo University sits a collection of post-war scientific conference proceedings. It is here that can be found the transcriptions of presentations made by many of the world's most renowned scientists at the twice-held Annual Tokyo International Conference on Emerging Physics and Physical Sciences (1962 and 1963). Within one volume appeared a lengthy piece, the transcribed words of Dr. Bernard McKay, a theoretical physicist from Chestershire King's College in the United Kingdom and keynote presenter at the 1963 Conference. The subject of his presentation was incomprehensible to even his most learned peers, yet one particular passage stands out as exceptionally intriguing and represents a discovery that demands the attention the international scientific community.

> Though not without much thought and careful study, I can flankly [*sic*] say now, that, through our method,

Figure 1. McKay's Equation



$= ma$

> we have finery [*sic*] proven that Newton was indisputably correct in his judgements, and that *horse does in fact equal the product of a mass and its acceleration*. (McKay, 1963, p. 127, emphasis added)

The question is thus put, can the highlighted comment be the product of a mislaid finger, or is it a discovery hitherto unacknowledged for its importance within the broader scientific context? To answer this question one must examine three possible points of failure: Dr. McKay, Mrs. Misae Higumoto (the stenographer employed by the university to transcribe McKay's keynote address), and Newton.

Sadly, both McKay and Higumoto have long since passed away, and no further commentary within their estates provides evidence one way or the other. Similarly, Dr. McKay's uncited source for the equation in question, this Newton individual or entity to which he refers, seems an enigmatic and obscure non-starter.

Questions have been raised in recent years on the linguistic and etymological fronts where the equation may have been an inside joke, so to speak, for McKay's attentive Japanese audience. The crux of these suggests that the kanji for horse may include constituent radicals found within the *joyo* glyphs representing the concepts of "mass" and "acceleration." Both of these, however, have been discounted following conversations between the author and members of the Linguistics Departments of both Tokyo and Kyoto Universities.

The Horse

Having clearly established the legitimacy of McKay's equation (*Figure 1*), one is left to reflect upon its implications. First, however, it must be noted that upon close inspection of the passage from which this discovery stems, one quickly realises that the "horse" in question is not to be thought of as a particular horse—neither by name nor breed. It is rather simply a horse, perhaps analogous to other

standards or constants to be found within the realm of mathematics. Similarly, when one speaks of mass and acceleration, McKay's equation does not specify that the mass or acceleration are that of the horse in question; they are simply a mass and an acceleration. Having said this, many exciting possibilities arise.

As is the will of mathematicians, from its basic form, McKay's equation may be manipulated such that mass may be derived from the quotient of horse over acceleration, and similarly acceleration from the quotient of horse over mass (*Figure 2*). Furthermore, when one considers the problem associated with determining the mass of a horse (or for that matter the acceleration of a horse), one finds the following proof most exciting.

$$x = \frac{m}{\text{horse}}$$

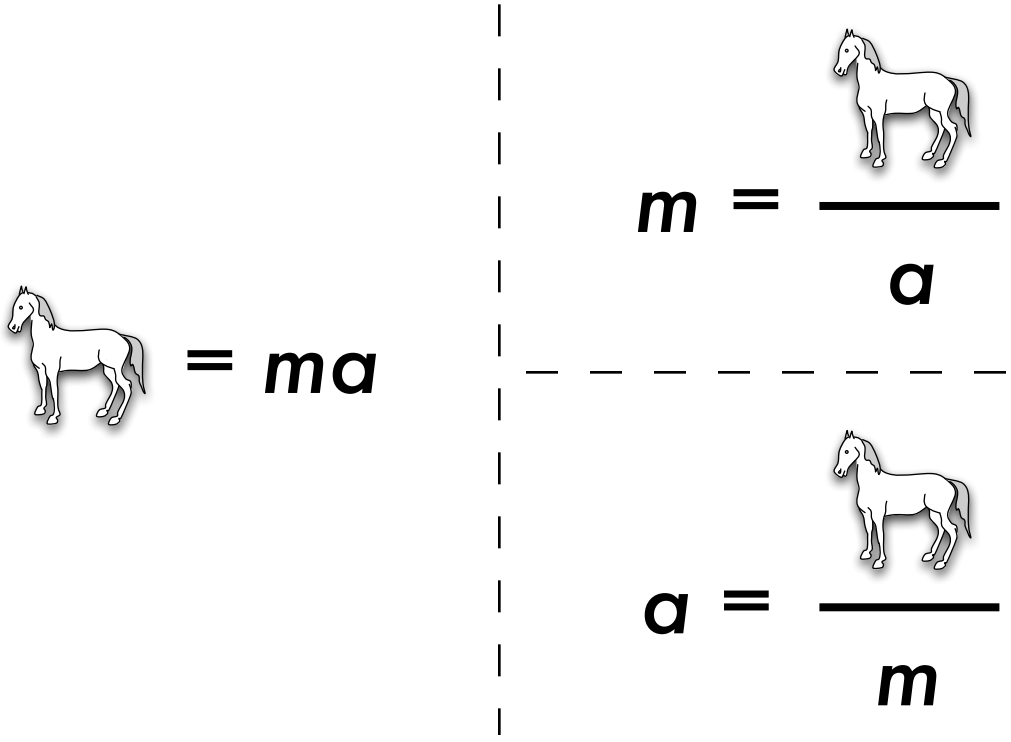
$$x = \frac{m}{ma}$$

$$x = \frac{1}{a}$$

$$x = a^{-1}$$

In practical terms, the mass of a horse whose acceleration is 2 m/s^2 would

Figure 2. McKay's Equation (Manipulations)



quite clearly be 0.5 kg, and for a horse whose acceleration is 4 m/s^2 its mass would not top 0.25 kg. Thus, one may reasonably conclude that the greater a horse's mass, the less its acceleration—a contention supported through observation of horse movement patterns in the wild.

Onward Algebra

The exciting possibilities for equine management found within the simplicity of McKay's equation are nothing short of magical. Yet work still remains wherein the validity of other mass and acceleration based equations, including:

$$v = \sqrt{\frac{\text{horse}}{m/L'}}$$

and

$$W = (\text{horse}\cos\theta)s$$

and still

$$f_s \leq f_s^{max} = \mu_s \text{horse}_N$$

must be explored.

References

McKay, B. (1963). *Theoretical proof of force*. Paper presented at the Second Annual Tokyo International Conference on Emerging Physics and Physical Sciences, Tokyo, Japan.