

Milk and Honey

Written by h. r. hepburn
and g. mitchell

Illustrated by c. p. richards

MILK AND HONEY

Being a collection of numerous and diverse essays, observations, expositions, telling comments etc. etc. that reveals the true nature and import of the oldest and most noble science, to wit, Agriculture

by

H. R. Hepburn *and* G. Mitchell

Illustrated by Colin Richards

and prefaced by more or less irrelevant remarks from
G. Baker

The entirety of the compendious regyment being affectionately dedicated to those ardent consumers of milk and honey: *our children*

1981

THE SCIENCE PRESS

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Published by:
The Science Press (Pty) Ltd.
Hyde Park Corner
Jan Smuts Avenue
Hyde Park
2196 Johannesburg
South Africa

Sole distributors outside South Africa:
(excluding USA and Canada)
Elsevier/North-Holland Biomedical Press
335 Jan van Galenstraat, P.O. Box 211
Amsterdam, The Netherlands

(for USA and Canada)
Elsevier North-Holland Inc.
52 Vanderbilt Avenue
New York, N.Y. 10017, USA

The Science Press ISBN 0-907997-01 5
Elsevier/North-Holland ISBN 0-444-80272 X

PRINTED IN THE NETHERLANDS BY CASPARIE-AMSTERDAM

PREFACE

The columns that were to become this book first appeared in the pages of the South African Journal of Science in mid-1978 and have been published with lunar, some would say lunatic, frequency ever since. The authors have their motives for writing these pieces, not the least being the opportunity to launch affronts against the nervous systems of their colleagues, as befits two experimental physiologists. The journal's motive in publishing the articles rests partly in the belief that all science is not necessarily true and that all true knowledge is not necessarily scientific - and that it is a crime against common sense to suppose that observations on the world of science and technology must necessarily be dull and pompous and accurate to the third decimal place.

The reliability of the information contained in these pages very much depends on how you interpret it. True scientists know perfectly well that most medical men manipulate statistics with the success they normally achieve with a diseased organ - they only sometimes get it right. But the numerical examples in this book, which emanate from one of the brighter corners of one of the better medical schools and which illustrate some of the more bizarre and foolhardy ways of modern science and technology, are sufficiently accurate to point many morals. Perhaps there are too many physicists around ignorant of even basic biological principles, perhaps the

biologists should be taught more thermodynamics; certainly there is too much advice being given by too many economists and sociologists, who seem to know nothing useful whatsoever. Needless to say this book should be prescribed reading for all of them.

The articles reproduced here are not exactly as they appeared in the journal. Some omissions had to be made (Hepburn and Mitchell disagree) in the originals - excision of a particularly gross insult here, or removal of an ambiguity somewhere else, which might otherwise have produced unhealthy repercussions in some branch of the agricultural life of the country - on the grounds that, while all censorship is to be deplored, so too are actions for libel brought by people who take too literally risqué remarks made with exaggerated enthusiasm. Nor did the journal ever include the quite brilliant drawings by Colin Richards, to my regret, work which indicates that the spirit of Albrecht Dürer is alive and well and living in the Transvaal.

G. Baker
Makapansgat, Transvaal
June 10, 1980

REBUTTAL

A preface is usually panegyric in nature and written by someone, presumably of distinction, whose remarks are meant to serve both as an imprimatur and as a hefty stimulus to sales of a book. Unfortunately, none of these traditional elements of a preface obtains in the present case. Indeed, this brief is a cornucopia of prejudice replete with inaccuracies and is, like Shakespeare, weak on chemistry. In a word, the preface is, we believe, litigious calumny.

We question the prefateur's motives (stated and otherwise) for having published those bowdlerized versions of our articles in his journal. Moreover, those comments about untrue science and non-scientific truths at their worst smack of a de Chardin and at best would require an untenable merger of Hylas and Philonous. Even allowing for High Church breeding, this is not on. Our own motives for having written these pieces is of course another matter. Perhaps the fact that we are respectively a sub-economic beekeeper and a sub-sub-economic cattle farmer has led us to the analysis of that noble scientific art, Agriculture. We do, however, admit reluctantly to being experimental physiologists of a sort, this mean condition resulting solely from the need to receive regular (if small) remuneration from sheltered academe. The illustrator's plight is that of one descended from a long line of border reivers and who, in the disguise

of an unexhumed Myles na gCopaleen, is hiding from the world of commerce.

Strong exception ought be made to the prefatorial ambivalence on physicists. There can be no doubt that there are too many ignorant physicists running the streets. (There are too many physicists of all kinds in any case.) There is some common ground for agreement in the assertion that there are too many economists and sociologists who know nothing useful whatsoever (to which we may add politicians and lawyers). But to castigate these unfortunate souls is tantamount to kicking cripples; to suggest that they might profitably read these essays reflects the naivete of a practising Luddite.

Baker's messianic censorship is a matter of grave concern. This too gave rise to our desire to publish in unexpurgated form. Excision of gross insults? The claim is fatuous but befits one who cannot distinguish insult from insouciance. Removal of ambiguity? This from a man born of Oxonian statistical mechanics and suckled on German uncertainty principles. While we would agree that libel is deplorable, it is certainly not our indaba if Baker should choose to indulge himself in libelous acts. Is it not fair, then, to ask what else could possibly be expected from a defrocked physicist turned word hack, whose life consists of foisting turgid editorials on an uninterested readership in a scientific backwater?

Lest the reader think us mean, we do nevertheless admire Baker's courage in writing the preface in the first place, knowing full well that we would reply to, if not edit, his own work. Clearly his ability to recognise true worth has not been blunted by years of reading scientific papers. We have other acknowledgements to record: the ceaseless derision and contempt of our colleagues have been a continuing stimulus to complete this little book. Similarly, we are indebted to numerous publishers who rejected the manuscript because it appeared "economically unviable" or "we are really not the right publisher" or "our list is limited to severely academic books." This of course paved the way to Elsevier/North-Holland, whose sense of risk is to be commended. The illustrator also has certain debts that must be mentioned. For example, he unashamedly pinched the lower right-hand corner of Breughel's "the alchemist" as a motif for Butterfly Race and cribbed heavily from Teniers the Younger's "L'Odorat" for Herb's Revenge. He makes no further comment except to record that he is, and always has been, an implacable foe of both poppet and piston valves.

H.R.H., G.M., C.R.
Bronkhorstspuit
 May 19, 1980

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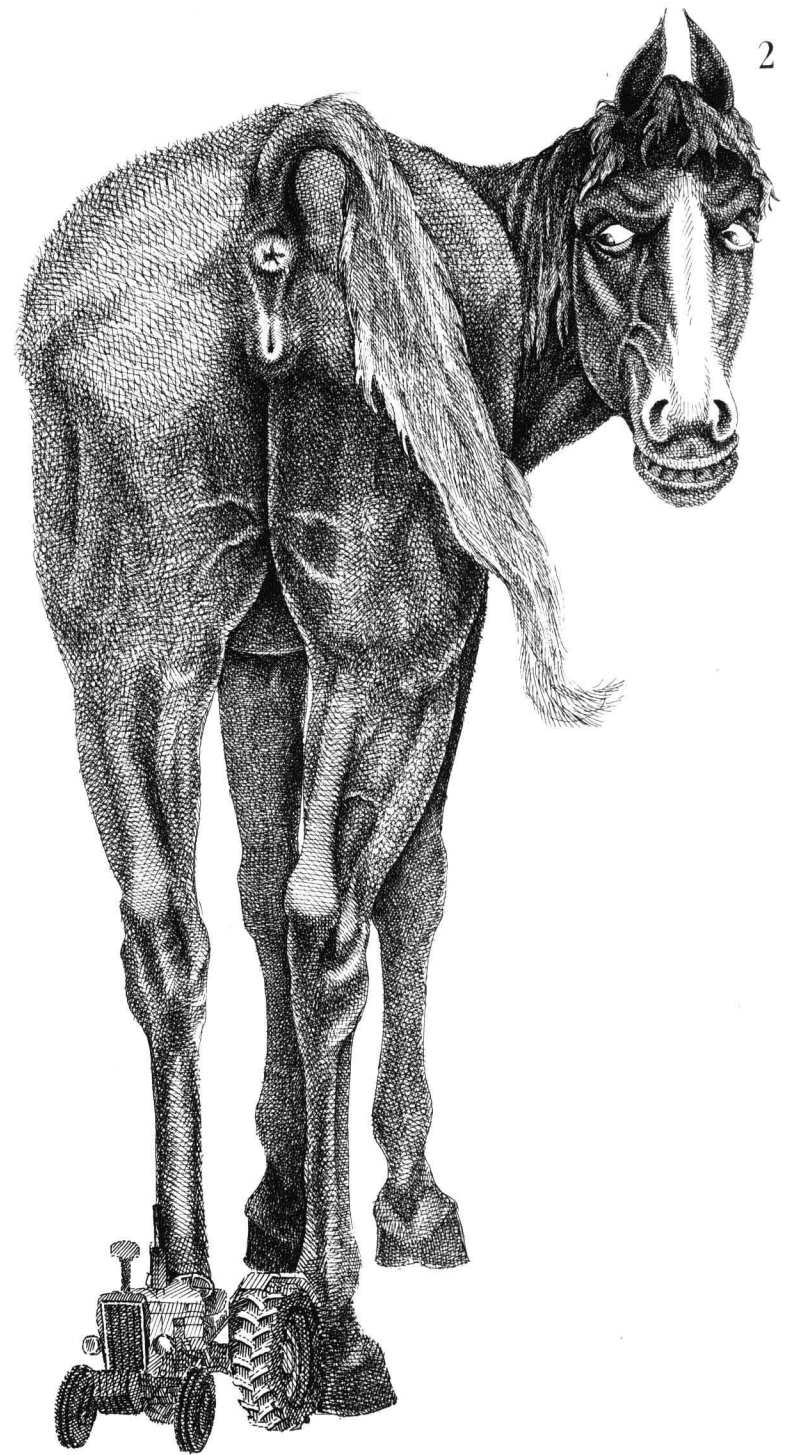
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HUNTING



HORSE PLAY

When Neptune or Poseidon (depending upon which side of the fence you arch your neck) struck the ground with his trident to produce the first horse, he could not have foreseen the chain of events he set in motion. Although a strong case can be made for the inclusion of myth into science (cf. p. 37) there is surprising and rampant controversy over the Neptune hypothesis. Indeed, breeding scientists of today claim an origin of all modern horses from three stallions (ex Matchem, Herod and Eclipse ca. 1750), possibly because three constitutes the minimal number of observations considered passable as a statistic.

What might have happened prior to 1750 is anyone's guess but reliable information (scientific opinion) suggests that miscegenation occurred between Arabian and European horses during the Crusades - a kind of kleptogyny while their masters fought (which certainly pre-empts the recently reported sneaky-fucker syndrome of Scottish deer) - resulting in the three stallions who then sired modern horsedom. This is a laudable explanation but is no match compared with Neptune's masterstroke. Not content with their explanations thus far, scientists have further persisted in clouding the issue by sometimes tracing progeny through the maternal line and at other times through branches of

the paternal tree. This preposterous assumption of female dominance has added even more confusion.

Today many people think that horses are more or less useless but this has not always been so: without horses there might have been more peace in the world because since ancient times horses were the backbones of armies. Would Attila or Napoleon have set out on foot? Likewise, America might have been a more pleasant place to live had not the Incas succumbed to the hoof of superstition that the conquistadores were supernatural or to the Spanish gift to America: smallpox. Further, certain rumour has it that that most glorious episode, the Charge of the Light Brigade, was unfortunately precipitated by an ear-shattering burst of flatus from an excited horse and not by errors of Lucan, Raglan and Cardigan. This fresher explanation is well within the digestive competence of horse physiology. Horses have won kingdoms elsewhere. Darius became king of Persia in 521 B.C. simply because his horse neighed first after the death of Smerdis, the groom having slyly shown the horse a mare in heat.

Since the earliest times horses have appeared in medical writings. Thus, Varro in the first century B.C. was called the Most Learned Roman not because he wrote 600 books (that's pollution in any guise) but because he drew attention to the similarities of human and horse

diseases and vices like weaving, crib-biting and wind-sucking. In addition, the horse was favoured by the attentions of Da Vinci and Vesalius.

Horses became particularly important to agriculture after the introduction of mechanical tillers and seed drills as the English woman was not able to pull all of the products of the Industrial Revolution. Horses dominated the energy scene until the early part of this century when there were more than one million of them employed on English farms. Their decline began in 1910 for three easily identifiable reasons. One, from Ogden Nash who wrote "I know two things about the horse; one of which is rather coarse" without further explanation. Secondly, a portion of the decline can be fairly attributed to the Belgians who, not content with having eaten most of their own, have long been busy eating most everyone else's horses, this at a rate of half a million tonnes per annum. This horsepower is largely consumed in speeding the Belgians to their pigeon races au bicyclette. Lastly, we must consider the advent of the tractor.

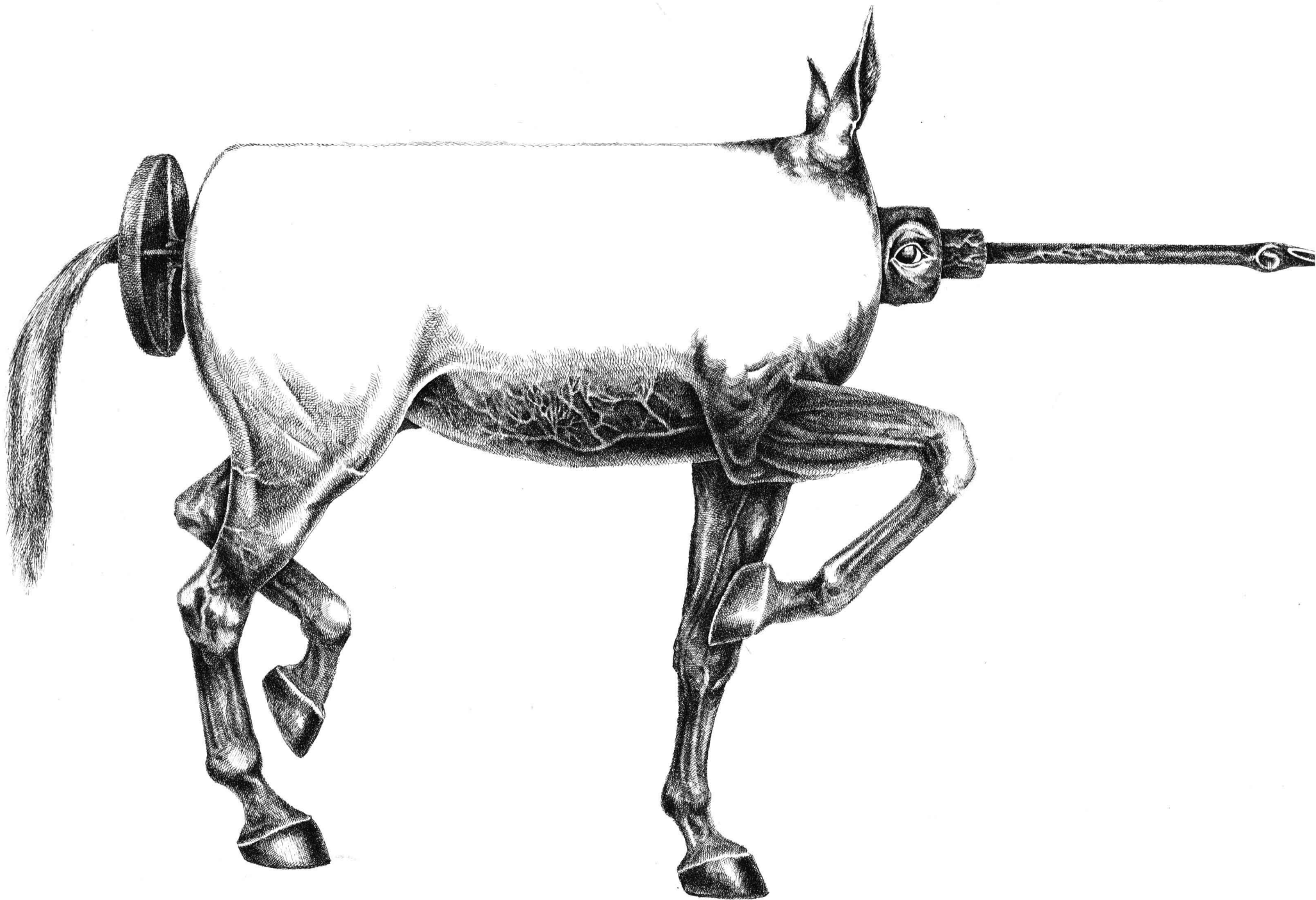
There are more tractors today on the farms of England than there are hired Englishmen. This is energetically undesirable even though one analysis has suggested that horses use more energy than do tractors. In this view a horse requires one hectare of land for grazing

so that a return to horsepower in England would mean that 2 million hectares would have to be taken out of crops used directly by man. In turn, only 10% of any substitute food could be used by horses. There are two fundamental errors in this argument. First, horses being herbivorous could subsist on the crop residues, which represent 50% of the total food energy available, while man ate the other 50%. Second, tractors, although using solar energy disguised as petroleum at 33% efficiency as opposed to only 10% in the horse, occupy a place in the food chain similar to man. Tractors consume energy during their manufacture and other energy is spent converting crude oil into suitable tractor food. In fact, horses are probably ten times more efficient energy converters and also provide free fertilizer. Apart from these aspects of tractor ecology when horse horsepower is compared with tractor horsepower, the latter represents a power input seven-fold greater than the former. This does not say much for tractors.

Tractors have even more insidious effects. The machines are replacing manual labour from the platteland of Europe at the rate of 500 000 persons a year. Not only that, there are some 15 million tractors in the world let alone other powered implements. All of these naturally consume fuel and it is a matter of no small

interest to note that it now takes about 500 litres of tractor food to produce and market a single hectare of mealies. The effect of this has been to completely reverse the energy equation. For hundreds of years a state of balance between energy consumption and food production permitted an essentially solar-powered agriculture with an energy input-output ratio of 1:50. That energy output came from the muscle of the sun for growing and that of man for reaping. The use of machines has reduced this ratio to 10:1, odds which not even Hippocampus would have started at.

However, since not everyone is willing to eat the beasts, once tractors gained dominance over them in agriculture, a new use had to be found for horses. Fortunately it was remembered that horses can be ridden, a use enhanced by the opinion of medical men that the outside of a horse is good for the inside of a man (or woman). The faithful practice weekend therapy with their mounts. The effects of riding on both man and beast are clear and seem to be dominated by a sympathetic (albeit cholinergic) sweating. Then again, spending two or three hours between the thighs of some of these weekenders is enough to make anyone sweat, let alone a horse. These weekenders usually have buckteeth, elongated faces and sufficient hauteur that they are able like any old Oxonian to look down on those taller than themselves.



CLIP-CLOP CLAP

It is very easy to pun on, or even to corrupt, a proverb but quite another to make it stick. We can, however, be grateful to Heywood who in 1846 rephrased “you can take a whore to the theatre but you can’t make her think” to reflect familiar cant on intractable cases of equine hydrophobia. Corruption of the mother tongue has taken other strange forms, particularly in the United States. Indeed, one unfortunate was prosecuted for ferrying seabirds from the Great Lakes to Baja California, on the grounds of transporting gulls across state lines for immoral porpoises! It took no less authority than the U.S. Supreme Court to resolve this zoological conundrum. This august body pointed out that the words in the act were “girls” and “purposes” and that the mammals in question were *Zalophus californianus*, which are not porpoises at all. This tweetalig problem was quite evident to Oscar Wilde who noted that Americans and Englishmen are divided by a common language. However, what so few people realise is that neither “purposes” nor “porpoises” is correct. Internal evidence of the act suggests that in all probability the law ought to refer to horses.

It is disconcerting, to say the least, that the few horses which have survived Belgian butcheries now stand on morals charges. Beyond belief, perhaps, but the recent

outbreak of “Silver Jubilee Clap” in the Kentucky bluegrass state invoked the law. Horses have always been noble and stately beasts and in the words of Wynkyn de Worde, a good horse is like a woman “fayre-breasted, faire of haire and easy to move.” This fifteenth century view is certainly contrary to Roman experience. Witness Virgil: “See from the first yon highbred colt afield: with clean cut head, short belly and stout back, his sprightly breast exuberant with brawn,” opinions which clash somewhat with those of de Worde. Shakespeare entirely avoided the controversy by remarking “Horses and chariots let us have, and to our sports” thereby encouraging a day at the races and spawning the idea of a horse-racing industry.

As we have argued before (cf. p. 4), once tractors had replaced horses on the land, and tanks substituted for cavalry, mankind was hard put to ensure the horse’s survival. Fortunately English Army officers, while not sticking pigs from horseback or chasing ridiculous white spheres in similar fashion, used racing as a means of testing horses for value as cavalry mounts. These days, horse-racing is virtually the *raison d’être* for the existence of horses. The size of the industry is remarkable. The races extract entrance money and attract bets. Even in remote South Africa the prize money comes to ten and a half

million rands, yearling sales average 4 million rands, and in 1977 legally recorded betting involved an estimated R550 millions, not to mention training, leasing and stabling costs. Indeed horse-racing is worth more than total agricultural exports. In the United States stud fees can fetch U.S.\$50 000 per service, annual yearling sales are worth U.S.\$80 million and the industry in Kentucky alone is worth upwards of a billion dollars per annum. In South Africa the whole country comes to a standstill for the Durban July, while in Australia the country is brought to its knees by the Melbourne Cup, and a recent general election there was scheduled to avoid interference with the race. In England, the carnage of the Grand National is all that counts on the last Saturday of March.

All this is now threatened by a bacterium. The disease was noted at the National Stud in Newmarket. The English naturally blamed the Irish (certainly a blameworthy race) who had sent over mares for mating. The mares repeatedly failed to conceive and it would never do to think that the six English stallions involved were unequal to the task. From Newmarket the disease spread (not surprisingly) to France and from France to Kentucky via two French Thoroughbred stallions, one aptly called Caro. The Newmarket Stud was temporarily closed, resulting in a \$30 million loss of stud fees and