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## The Great Horse-Manure Crisis of 1894



**W**e commonly read or hear reports to the effect that “If trend *X* continues, the result will be disaster.” The subject can be almost anything, but the pattern of these stories is identical. These reports take a current trend and extrapolate it into the future as the basis for their gloomy prognostications. The conclusion is, to quote a character from a famous British sitcom, “We’re doomed, I tell you. We’re doomed!” Unless, that is, we mend our ways according to the author’s prescription. This almost invariably involves restrictions on personal liberty.

These prophets of doom rely on one thing—that their audience will not check the record of such predictions. In fact, the history of prophecy is one of failure and oversight. Many predictions (usually of doom) have not come to pass, while other things have happened that nobody foresaw. Even brief research will turn up numerous examples of both, such as the many predictions in the 1930s—about a decade before the baby boom began—that the populations of most Western countries were about to enter a terminal decline. In other cases, people have made predictions that have turned out to be laughably overmodest, such as the nineteenth-century editor’s much-ridiculed forecast that by 1950 every *town* in America would have a telephone, or Bill Gates’s remark a few years ago that 64 kilobytes of memory is enough for anyone.

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The fundamental problem with most predictions of this kind, and particularly the gloomy ones, is that they make a critical, false assumption: that things will go on as they are. This assumption in turn comes from overlooking one of the basic insights of economics: that people respond to incentives. In a system of free exchange, people receive all kinds of signals that lead them to solve problems. The prophets of doom come to their despondent conclusions because in their world, nobody has any kind of creativity or independence of thought—except for themselves of course.

A classic example of this is a problem that was getting steadily worse about a hundred years ago, so much so that it drove most observers to despair. This was the great horse-manure crisis.

Nineteenth-century cities depended on thousands of horses for their daily functioning. All transport, whether of goods or people, was drawn by horses. London in 1900 had 11,000 cabs, all horse-powered. There were also several thousand buses, each of which required 12 horses per day, a total of more than 50,000 horses. In addition, there were countless carts, drays, and wains, all working constantly to deliver the goods needed by the rapidly growing population of what was then the largest city in the world. Similar figures could be produced for any great city of the time.\*

\*See Joel Tarr and Clay McShane, “The Centrality of the Horse to the Nineteenth Century American City,” in Raymond Mohl, ed., *The Making of Urban America* (New York: SR Publishers, 1997), pp. 105–30. See also Ralph Turvey, “Work Horses in Victorian London” at [www.turvey.demon.co.uk](http://www.turvey.demon.co.uk).

The problem of course was that all these horses produced huge amounts of manure. A horse will on average produce between 15 and 35 pounds of manure per day. Consequently, the streets of nineteenth-century cities were covered by horse manure. This in turn attracted huge numbers of flies, and the dried and ground-up manure was blown everywhere. In New York in 1900, the population of 100,000 horses produced 2.5 million pounds of horse manure per day, which all had to be swept up and disposed of. (See Edwin G. Burrows and Mike Wallace, *Gotham: A History of New York City to 1898* (New York: Oxford University Press, 1999).

In 1898 the first international urban-planning conference convened in New York. It was abandoned after three days, instead of the scheduled ten, because none of the delegates could see any solution to the growing crisis posed by urban horses and their output.

The problem did indeed seem intractable. The larger and richer that cities became, the more horses they needed to function. The more horses, the more manure. Writing in the *Times* of London in 1894, one writer estimated that in 50 years every street in London would be buried under nine feet of manure. Moreover, all these horses had to be stabled, which used up ever-larger areas of increasingly valuable land. And as the number of horses grew, ever-more land had to be devoted to producing hay to feed them (rather than producing food for people), and this had to be brought into cities and distributed—by horse-drawn vehicles. It seemed that urban civilization was doomed.

## Crisis Vanished

Of course, urban civilization was not buried in manure. The great crisis vanished when millions of horses were replaced by motor vehicles. This was possible because of the ingenuity of inventors and entrepreneurs such as Gottlieb Daimler and Henry Ford, and a system that gave them the freedom to put their ideas into practice. Even more important, however, was the existence of the

price mechanism. The problems described earlier meant that the price of horse-drawn transport rose steadily as the cost of feeding and housing horses increased. This created strong incentives for people to find alternatives.

No doubt in the Paleolithic era there was panic about the growing exhaustion of flint supplies. Somehow the great flint crisis, like the great horse-manure crisis, never came to pass.

The closest modern counterpart to the late nineteenth-century panic about horse manure is agitation about the future course of oil prices. The price of crude oil is rising, partly due to political uncertainty, but primarily because of rapid growth in China and India. This has led to a spate of articles predicting that oil production will soon peak, that prices will rise, and that, given the central part played by oil products in the modern economy, we are facing intractable problems. We're doomed!

What this misses is that in a competitive market economy, as any resource becomes more costly, human ingenuity will find alternatives.

We should draw two lessons from this. First, human beings, left to their own devices, will usually find solutions to problems, but only if they are allowed to; that is, if they have economic institutions, such as property rights and free exchange, that create the right incentives and give them the freedom to respond. If these are absent or are replaced by political mechanisms, problems will not be solved.

Second, the sheer difficulty of predicting the future, and in particular of foreseeing the outcome of human creativity, is yet another reason for rejecting the planning or controlling of people's choices. Above all, we should reject the currently fashionable "precautionary principle," which would forbid the use of any technology until proved absolutely harmless.

Left to themselves, our grandparents solved the great horse-manure problem. If things had been left to the urban planners, they would almost certainly have turned out worse. □