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Standard gauge evolution

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The worldwide 'Standard' railway gauge is 4 feet, 8.5 inches. That's an exceedingly odd number. So why was that gauge used? Because that's the way we built them here in Britain and exported the practice all over the world.

Why did we build them like that? Because the first rail lines were built by the same people who built the pre-railway tramways, and that's the gauge they used. Why did 'they' use that gauge then? Because the people who built the tramways used the same jigs and tools that they had earlier used for building wagons, which used that wheel spacing.



spacing? Well, if they had tried to use any other spacing, the wagon wheels would

have broken up on some of the old, long distance roads, because that's the spacing of the wheel ruts. So, who built those old rutted roads? Imperial Rome, which built the first long distance roads in Europe (including Britain) for their legions. Those roads have been used ever since.

And the ruts in the roads? Roman war chariots formed the initial ruts, which everyone else had to match for fear of destroying their wagon wheels. Since the chariots were made for Imperial Rome, they were all alike in the matter of wheel spacing. Therefore, following most of the rest of the world, the USA standard railway gauge of 4 feet, 8.5 inches for example is derived from the original specifications for an Imperial Roman war chariot. In other words, bureaucracies live forever.



So, the next time you are handed a specification, procedure, or process, and wonder, "What horse brain came up with this?" you may be exactly right. Imperial Roman army chariots were made just wide enough to accommodate the rear ends of two war horses.

Now, the twist to the story: When you saw a Space Shuttle sitting on its launch pad, you would have noticed that there were two big booster rockets attached to the sides of the main fuel tank. These were solid rocket boosters, or SRBs. The SRBs are made by Thiokol at their factory in Utah.



The engineers who designed the SRBs would have preferred to make them a bit larger, but the SRBs had to be shipped by train from the factory to the launch site. The railway line from the factory happens to run through a tunnel in the mountains, and the SRBs had to fit through that tunnel. The tunnel is only slightly wider than the railway track, and the railway track, as you now know, is about as wide as two horses' behinds. So, a major Space Shuttle design feature of what was arguably the world's most advanced transportation system was determined over two thousand years ago

by the width of a horse's backside.

