# Mis-Design of The Metric System
# Another Unnoticed Engineering Error

Document # DRAFT-120006
Version 0.1
September 12, 2007

Available on-line at:
http://mohsen.banan.1.byname.net/draft/120006

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# Contents



# List of Tables

# 1 About The Metric System

Used in nearly every country in the world, the Metric System was devised by French scientists in the late 18th century. The goal of this effort was to produce a system that used the decimal system rather than fractions as well as a single unified system that could be used throughout the entire world.

# 2 Counting Vs Measuring

Count in base 10.

Measure in whatever makes more sense for what you are doing.

A measuring system is more than just numbers. It is also being able to visualize and know what those numbers represent in the real world. For that, I'm all imperial (except for a few metric measurements for bike parts).

What already uses a power of base 12 as it's base?

1. Geometry: 360 degrees in a circle: 12*30 = 360

2. Time: 60 seconds in a minute, 60 minutes in a hour, 24 hours in a day: 12*2 = 24, 12*5 = 60

3. Imperial: 5,280 ft in a mile (12 * 440 ft), 12 inches in a foot

4. Eggs: 12 eggs in a dozen: dozen = 12 * 1 egg

# 3 A Common International Standard

Forcing a standard over what is established only works if the new standard is better. Metric is inferior to Imperial. US/UK will likely never change.

# 4 To Be Absorbed In

Why everything you know about the Metric System is wrong and what it means for Identity Systems February 26, 2008 2 Comments

http://idlogger.wordpress.com/2008/02/26/why-everything-you-know-about-the-metric-system-is-wrong-and-what-it-means-for-identity-systems/

Recently as part of my work with Cub Scouts I had to prepare a lesson on the Metric System. That started me thinking about the myths and misconceptions of the Metric System, why it isn't used in the United States, and what that all means for Identity Systems.

First let me say I am a big fan of the metric system (I have a MS in Aerospace Engineering). And living in the United States, I almost never use it. And those not contradictory statements. The reason that I never use it is that for my day to day life outside of work it simply offers no advantages to me. When studying engineering in college I used the Metric System almost exclusively. However after going into the software industry I havent used it professionally since.

Here are some myths and misconceptions:

Myth #1 - The Metric System is a base10 system which is far superior to base 12 systems. The metric system has been adopted world-wide (except for those crazy stuborn Americans) because of the inherent superiority of base10 mathematics in every day use.

BTW, what time is it where you are? What coordinates does your GPS show? How steep is that incline? Have you ever tried to saw a 1 meter board into 6 even pieces?

The point is while base10 is much better for doing calculations with a calculator, base12 is better for some calculations you need to do in your head. That is because 10 is divisible by only 5 and 2, where as 12 is divisible by 2,3,4, and 6.

Myth #2 You shouldnt use the English (Customary) System for technical purposes because the conversion between feet and inches and pound and ounces is much harder than converting between meters and kilometers and liters and milliliters.

When doing technical work you dont ever need to convert between feet and inches. You really every need to convert between meters and kilometers either. Once you are using scientific notation it doesnt matter. 10,000 feet is 110E6 feet and 10,000 meters is 110E6 meters. Neither unit system is easier than the other in scientific notation.

Myth #3 The Metric System is superior because all units are derived and reproducible from the properties of natures. For instance the Celsius 0 and 100 are freezing and boiling point of water. The meter is derived from a Meridian of the Earth.

While the Metric System was once naturally derivable, it was long ago discovered that physical properties that they originally used vary too much to give an accurate definition. For a while they where defined against physical models (for instance a certain platinum bar was used to define the meter). That was eventually viewed as too risky. Now all units are defined in purely arbitrary, but reproducible terms.

Myth #4 The stubborn Americans will eventually convert when enough are educated sufficiently. Its only ignorance that keeps the Americans from converting willingly like the rest of the world.

The Metric System originally became accepted only at gun point. The point of Napoleon's guns to be exact. The real telling point comes from the Wiki entry:

As of 2007 only three countries, the United States, Liberia, and Myanmar (Burma) had not mandated the metric system upon their populace.

Ah, breathe in the Orwellian goodness of that statement. The Metric System is so superior to other forms of measurement it has been mandated on the people by the force of law. All for their own good of course.

The point is while there is a huge advantage to everyone being on the same system of measurement, the choice of Metric versus Customary is purely an arbitrary choice. Since people make these choices based on personally perceived value combined with a natural resistance to change, most will not willingly convert to a new system without being forced to under threat of punishment. Or put simply:

Change is hard. Inches are easy.