Whatever Happened to the Metric System?: How America Became the Last Country on Earth to Keep Its Feet

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The American standard system of measurement is a unique and odd thing to behold with its esoteric, inconsistent standards: twelve inches in a foot, three feet in a yard, sixteen ounces in a pound, one hundred pennies to the dollar. For something as elemental as counting and estimating the world around us, it seems like a confusing tool to use. So how did we end up with it?

Most of the rest of the world is on the metric system, and for a time in the 1970s America appeared ready to make the switch. Yet it never happened, and the reasons for that get to the root of who we think we are, just as the measurements are woven into the ways we think. John Marciano chronicles the origins of measurement systems, the kaleidoscopic array of standards throughout Europe and the thirteen American colonies, the combination of intellect and circumstance that resulted in the metric system’s creation in France in the wake of the French Revolution, and America’s stubborn adherence to the hybrid United States Customary System ever since. As much as it is a tale of quarters and tenths, it is a human drama, replete with great inventors, visionary presidents, obsessive activists, and science-loving technocrats.

Anyone who reads this inquisitive, engaging story will never read Robert Frost’s line “miles to go before I sleep” or eat a foot-long sub again without wondering, Whatever happened to the metric system?

Whatever Happened to the Metric System?: How America Became the Last Country on Earth to Keep Its Feet Details

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From Reader Review Whatever Happened to the Metric System?: How America Became the Last Country on Earth to Keep Its Feet for online ebook

Bob says

The title of the book is a little misleading as the USA's failure to fully adopt the metric system is only a small part in a wide-ranging story about the desire for some to come up with one unifying standard for everything in the world, including money and language.

The metric system was born out of the Enlightment and put into place during the French Revolution. France's new government loved a standard and rational way of measuring things. And they loved the decimal system. Everything for a while was decimalized, even a calendar that featured 10 day weeks.

Eventually, the system changed into what is used today. It took a while for it to catch on as even France went away from it during Napoleon's time. But, it eventually caught on again, except in two notable places: the United States and Great Britain.

The British weren't about to have a the French tell them just how to measure things. The UK didn't go fully metric until the 1990s when the European Union forced them to. (And they still don't like it.)

Americans never have embraced the metric system. As far back as 1817, John Quincy Adams wrote a report stating that the metric system was more or less a passing fad. There was a push to adopt in the 1970s, but it fell prey to the problem that most changes have in America, i.e., people just don't want to change and learn new things.

Marciano points out that not all parts of customary measures (as the system in the U.S. is referred to) are illogical. Having measurements that can be divided by 2 or 4 or 8 or 3 are very handy.

The idea of a 60-second minute, 60-minute hour, and 24-hour day has probably been the one measurement that the entire world has agreed upon. Even the U.S. and North Korea agree on that.

Will America ever go metric? It sort of already has, even though we still use miles and feet and pounds. Our aircraft use metric measurements. We got to the moon on the metric system. We like buying soda in 2 liter bottles. We read nutrition information to see how many grams of fat are in it.

Technology has made all types of measurement universal. It's all just a matter of doing the math.

Sara says

I've never given the metric system much thought. It's something I learned in the 70's, back when we were sure the U.S. was going to convert by the end of the decade. It seemed easier to learn and at that time I probably could have handled the change just fine.

The conversion never really happened, not in my day to day life. I never saw kilometers on the road signs (unless I was close to the border) and gradually the cars stopped listing how many kilometers per hour you were driving and just stuck to miles. I could read the milliliters on the bottles at the grocery store which I

assumed was for international trade. I knew you needed a set of metric wrenches to work on cars which might be all or partially metric.

And, of course, I remember the wrecked rocket ship on Mars, which was the result of the space program using both metric and US customary measures. ("Oh, you meant miles! Ooooh. . . .") Yeh, heads had to have rolled because of that.

When I saw this book I thought it would be interesting to find out just why the United States refused to go metric. I'm still not completely sure. It sounds like we resisted. We didn't compromise an inch! Well, we actually did, though not the actual "inch". The United States went metric in some areas and in others, it just didn't matter. We don't mind a 750 ml bottle of wine or whiskey (though I still hear people say "a fifth of whiskey" which is bizarre to me - 757.08 ml or 1/5 of a liquid gallon) but apparently the cost of converting all the gas pumps to metric during the fuel crisis did not go over well. I don't remember the protests. I learned my math at school and when nothing happened - well, I moved on. (Now, if I had to learn my temperature in Celsius or my mileage in kilometers, I would struggle. I'd be forever converting in my head like a foreign language.)

The U.S., being isolated from Europe and not as much involved in most of the foreign wars after the push for decimalization and the metric system in the late 1700's did not have as pressing of a need for the metric system in people's daily lives. (We weren't becoming members of the EU.) The computer age made so much of the math easier, too.

I learned some very interesting things. A mile is 5,280 feet because a mile is not really related to the foot. A mile is 8 furlongs and is related to the acre and the plowing of land. There was a movement to change the calendar so all the months were fairly equal and the same date would fall on the same day of the week in every month and year. That didn't die out until 1955. (That would be horribly hard to learn and adjust to.) Decimalization is fairly new, as far as how we use it and discuss it. I can't imagine a time when people would routinely say "one and half pounds" and not think of it as 1 point 5 pounds. There were lots of other interesting tidbits.

I'm almost embarrassed I had never really thought about most of this! It was a good choice for a non-fiction book.

Ryan Dejonghe says

Holy Cow! This book is actually interesting. I grabbed this book, having a mild curiosity in wanting to find out why us Americans measure in feet, travel in miles, and weigh in pounds, versus seemingly the rest of the world, but what I got was so much more!

Seriously, I’m not just blowing this out of proportion. (Sorry for the bad pun, but get it? Proportion? Ok, never mind.) The author starts talking about recent presidents and Dan Rather and then pulls some mind tricks. He breaks the chapters up by fractions, such as 2/16 being one eighth, and then talks about Jefferson, Franklin, and Adams, and how the decimal system came about. Then he talks about money. We all are interested in money, right? And he goes on and on.

What I’m saying is this book is much more than inches versus centimeters or ounces versus cups, this is about math and human interest and history. Many things I have never heard of or learned before, such as France’s fascination with Franklin, and how he played it up when he went there.

Kudos to John Bemelmans Marciano, he just made learning entertaining; that’s awesome.

Oh, and speaking of that French connection with Franklin, the author also penned the children’s favorite MADELINE books. So, yeah, he’s good stuff.

Thanks Bloomsbury for providing this electronically for review; this book rocks.

Michael says

I had no idea how important French history, and colonial history in general, had to do with the metric system. Also, the overwhelming reasons why the US is not metric surprised me. Not that much when I thought about it, but I had never thought about it before, and it makes sense. Really good book.

Alex says

This really was not the book I though it would be. It's a history of the metric system in america, don't get me wrong, but I thought it would be much more on the cultural reasons Americans choose to reject it. The book was more about the history of the metric system as a whole and I didn't personally find the writing engaging or interesting.

Converse says

I suspect that most people wouldn't be interested in the history of a system of measurement. For those who are, John Bemelmans Marciano's book may be interesting. Marciano actually covers more than the metric system, as measures of time, calendar systems, and especially currency are also discussed.

Currency historically had a direct connection to measures of weight, as ideally a pile of silver coins weighing one pound should also be worth one pound in a monetary sense. This connection generally was obscured in practice, as governments reduced the precious metal content of coins or as the coins were clipped by counterfeiters.

Currency also formerly encapsulated the historically preferred mathematical relationship between different units, with units that could be readily divided not just in half but also by quarters or thirds without remainder were preferred. For example, before it was reformed in 1971, the British pound was divided into 20 shillings, each shilling worth 12 pence. Historically in the western world most people's math skills were limited to doubling numbers, or repeatedly dividing them in half. Hence the popularity of units like a pound (mass) divisible into 16 ounces, or an foot divided into 12 inches.

The metric system, devised in France in the 1790s during that country's great revolution, changed all that, using units that differed by pounds of 10, such as 1000 grams in a kilogram. It also created a connection between different kinds of units, such as between volume and weight - a gram was supposed to be the weight of one cubic centimeter of water at the temperature at which liquid water was most dense.

As far as we know, most French people didn't want decimals, what they wanted was uniformity: the country

was awash in conflicting customary units, which ordinary people suspected were rejiggered, or picked and chose from, by the powerful (landlords, millers, etc.) to enrich themselves and to the detriment of the majority. The metric system was certainly uniform, but it's decimal basis was foreign to most ordinary people, but exactly what the scientists who devised it found most convenient in their own work. As originally formulated, the metric system isn't truly universal, as the unit of length, the meter, was one ten millionth of the meridian of longitude. passing through Paris; because the earth is not a perfectly symmetric geometrical figure, one ten millionth of one meridian is not the same distance as one ten millionth of another meridian.

Earlier, in 1784, Thomas Jefferson successfully advocated to the Continental Congress of the United States that the new nation adopt a decimal currency, with 100 cents to the dollar. Though it took a few years and a new constitution, when this policy was put into practice this change made the United States the first country with a decimal based currency. Given the link, then still in existence, between weights and currency values, it is somewhat surprising that the United States didn't adopt a decimal-based measurement system. Jefferson had his own ideas on what such a system should be, and wrote up a report on it when he was Secretary of State in the early 1790s, but he advocated waiting until Britain and France together devised a single system, something that seemed possible early in the French Revolution but never came to pass. Customary units seem to have survived because those in use in the United States were fairly uniform. Thus the situation was different from that of France, where there were at least dozens of different customary systems.

During the nineteenth century, other nations adopted the metric system, generally as they were created during unification campaigns (like Italy), when they became independent (Belgium from the Netherlands) and wanted to distinguish themselves from their former rulers, or as part of a modernization campaign. These events spread a system that hadn't been very popular in France under Napoleon or during the Bourbon restoration after he was forced out. The adoption of the metric system in the former colonies of the European powers after the Second World War followed a similar dynamic. Repeated campaigns to make the metric system the measurement system of the United States failed during the nineteenth century, but the system was made legal for transactions after the Civil War, and in fact the customary units became to be defined in terms of their metric counterparts during the post Civil War era. Time became more uniformly defined in the United States and across the world during the same period, with the adoption of fairly uniform time zones and making the Greenwich meridian the reference meridian for mapping.

The last well-publicized push for metrication in the United States came and failed during the 1970s. Behind the mask of computer software, which allows us to pretend we aren't using metric measures, the use of the metric system has generally increased. There are anomalies, some of them evident in a grocery store (mineral water sold in ounces, for example), and a more important behind the scenes one, the fact that the ubiquitous shipping container's volume is defined in terms of customary units. I think Marciano is right in suggesting that the advocates of the metric system in the United States were mistaken in thinking it was an all or nothing process.

I have not touched on all the subjects Marciano discusses in this well-written book, in particular on calendar reform, attempts to unify currencies in the nineteenth century, and changes in the monetary system during the twentieth century.The book contains a chapter by chapter section giving sources for each chapter, and also has a bibliography and index.

Steve Tetreault says

I am a big trivia fan, a lover of science, and I like to dip into unusual aspects of modern history every so often. This book provides all of these in spades. It is an entertaining and thorough look at how measurement, in its many guises, affects the world in real and powerful ways that we may not even consider. Along the way, it gives some interesting European and American history lessons.

Now, I am the first to admit that my grasp of the chronology of history is weak, but this book really helped to line up a lot of events I hadn't realized were so closely related in time. It also provided a fascinating look at the French Revolution, from both insider and outsider perspectives. As my greatest interaction with that historical event had been watching the movie adaptation of *Le Miserable*, I found these insights fascinating.

Definitely worth reading!

Kate says

A little hard to follow in places. A very interesting explanation of how many historical factors shaped the development of the metric system as we currently know it--as well as standard time, the prime meridian, and decimalized money, and how they're all related--and of how long the U.S. has been going back and forth on the topic.

W. Derek Atkins says

This book is far more about the history of the metric system, and why America ultimately chose to reject this system. This book is in fact a surprisingly detailed history of the Progressive Movement, beginning with the French Revolution and going all the way up to the Cold War era. I found this history of Progressivism a surprising tangent for a book that is billed as a history of the metric system, but after reading this book, I now understand why Marciano went off on this tangent, for what he shows very clearly is how the metric system is part of a much larger movement to create universal measures for time, money, and the decimalization of mathematics. These movements, in turn, was part of the even larger Progressivist dream of creating a one world government, complete with a common currency for money, a common language, and a common calendar that regularized all the months. And in case you doubt this description of the book, I challenge you to read the book for yourself. It really is a very fascinating history of Progressivism.

Marciano has written a book that is very readable, as well as a book that has opened up a whole area of history that I had little knowledge of. Both are impressive achievements.

Jordan says

Give Marciano some credit: Most people attempting to write a book on this subject would probably end up boring you to tears. Students are taught how to use the metric system in their science classes, but how the systems of standardization were developed and rolled out around the world is still a mystery to most. Things like time zones, trucking and shipping container sizes, and daylight saving time are all things people just take at face value and can't imagine a world without them.

Sure, some other reviews are critical about a few nuanced details that may have been described differently if they were authoring this book, but that does not take away from the fascinating tale of how various types of standardization and improvements to that standardization has shaped cultures and countries over time. This book is worth your time.

Steven says

Although I was interested in the topic, I put off reading this book at first because I thought it would be about political grandstanding and fighting over measurement system in the 1970s. This is NOT that at all.

In cleverly numbered chapters (I won't spoil it), Marciano delves into the whole history of measurement standardization efforts over the last two centuries. I had never really realized that the US customary measures and the French metric system both developed out of their respective revolutions around the same time. Just about all the Founding Fathers had their say about standardization, including Thomas Jefferson, who seems to be making an appearance in every history book I've read over the past year or so.

But Marciano doesn't just cover feet, meters, ounces and liters. He also explores efforts to standardize time, calendars, languages, spelling and monetary systems. In fact, I had never been aware just how closely currency was related to weights and measures. The author outlines this nicely. A cast of characters from history make appearances throughout the book, from John Quincy Adams to Napoleon, from George Eastman and Andrew Carnegie to my personal favorite, Melville Dewey. It's a pretty wild ride and Marciano keeps it interesting the whole way.

In the end, he seems content to admire the efforts on all sides of these issues, and points out that our two systems -- he describes the US as effectively being *bimensural* -- are now tightly intertwined, saying that "...the metric system can be our operating system without being our interface."

This paragraph from the last chapter sums things up nicely:

> In the Babylonian sixtieths, Roman twelfths, and medieval halves, quarters and eighths there is the logic and genius of countless generations of people coming to grasp with the world around them, the same way there is a logic and genius in the Enlightenment tenths, hundredths and thousandths of the metric system. What is good about the latter does not negate what is good about the former.

Ken says

While the title of the book makes it seem like it primarily deals with the U.S. and the Metric system, it really covers quite a bit of the history of global weights and measures, but it does so essentially from the start of the U.S. as a nation and uses the U.S. as the central framing device. The majority of the book deals with the history before the turn of the last century, and does so very well, which leaves me wanting a little more when Marciano gets in and through the 20th and start of the 21st century so quickly. Still, this is an interesting read and one that is written in a way that keeps the reader engaged. It has further stoked my interest in the subject and in some of the key figures involved in the various histories, which is about all one can ask of such a book. If you are into this kind of history, this is a solid book that is worth your time, regardless of how you

measure that time.

Marie says

"Written in the aftermath of World War II, George Orwell's 1984 imagined that the metric system had been imposed on America and Britain by the totalitarian regime of Big Brother."

"The U.S. Metric Study was the largest research project ever undertaken by the National Bureau of Standards, employing a forty-man team who for three years worked to assemble a report that sought to cover the impact if the metric system on every sector of the American economy."

The final report was over two thousand pages and presented a plethora of reasons why the United States should and must go metric. Present day costs were beside the point in a switch deemed inevitable, while economic benefits would accrue from all sides once metrication was achieved, with increased competitiveness in the global marketplace for American exports and savings at home. the report stated that the United States stood to save as much as a half a billion dollars annually from school budgets alone, on the premise that students wasted a full quarter of their time in math class to the eighth grade studying customary measures."

"In 1971, Nixon closed the gold window. He pulled america and therefore the world off the gold standard."

"The first mainstream American product to be hard metric arrived in 1975 when 7 Up switched its pints and quarts to half liter and liter containers."

"Federal education law passed in 1974 making the teaching of the metric system a national policy."

"American journalists delighted in pointing out that ten gallon hats would soon measure 37.85 meters. McDonald's would need to replace its Quarter Pounder with a Hundred and Thirteen Grammar. Expressions such as touching someone with a ten foot pole and give a inch and take a yard would need to be reworded. Pound cake, foot long hot dog and inch worm would also need to be redone.

"Gerald Ford signed the Metric system into history. A Metric Board was to be appointed by the president to coordinate various aspects of conversion, form education to assisting commerce and industry with the challenges that lay ahead."

"The metric system became one more corpse in the graveyard of Reagan budget cuts."

"The metric system is most prevalent in the supermarket, yet most shoppers could care less. The most important measure is always in dollars and cents."

"America thinks of itself as not having to play by the same rules as the rest of the world."

"America has never gone metric becuase it never had to, and every other country did."

Anne says

Danger! Alert! Danger! This book is INSANELY boring in the middle. If you're interested at all in the topic of the metrification of the United States, don't believe all the four and five star reviews here. Trust me, read the first two or three chapters (three if you want to get a small taste of the history that, again, TRUST ME, will just repeat in a hideous cycle of boring dead white guy shit that goes on for 200 years) then skip to the final three for a delightfully snappy recap of modern metric happenings.

Because, yeah, the US apparently had had metric fanboys going back hundreds of years, but it wasn't until it got a Sputnik in the pants in the late 1950s that certain people began to think the US should go all metric all the time. Alas, in what I'm going to call an NPR-assisted move (yes, THAT NPR, hahaha!), Ronald Reagan basically pulled the plug in the early 1980s. But that's ok, the US, as always, does what it wants and uses metric when it wants and not when it doesn't. Yeah. Read the book (selectively) for the delightful details.

Lorie says

This book was better than I expected! The author provides a detailed modern history of systems of measurement, and he includes what I found to be interesting facts that dispel some common myths about measurement and money. As a middle school math teacher, I think this book is perhaps too detailed for my students to enjoy as a class read, but, on a personal level, I really enjoyed it.