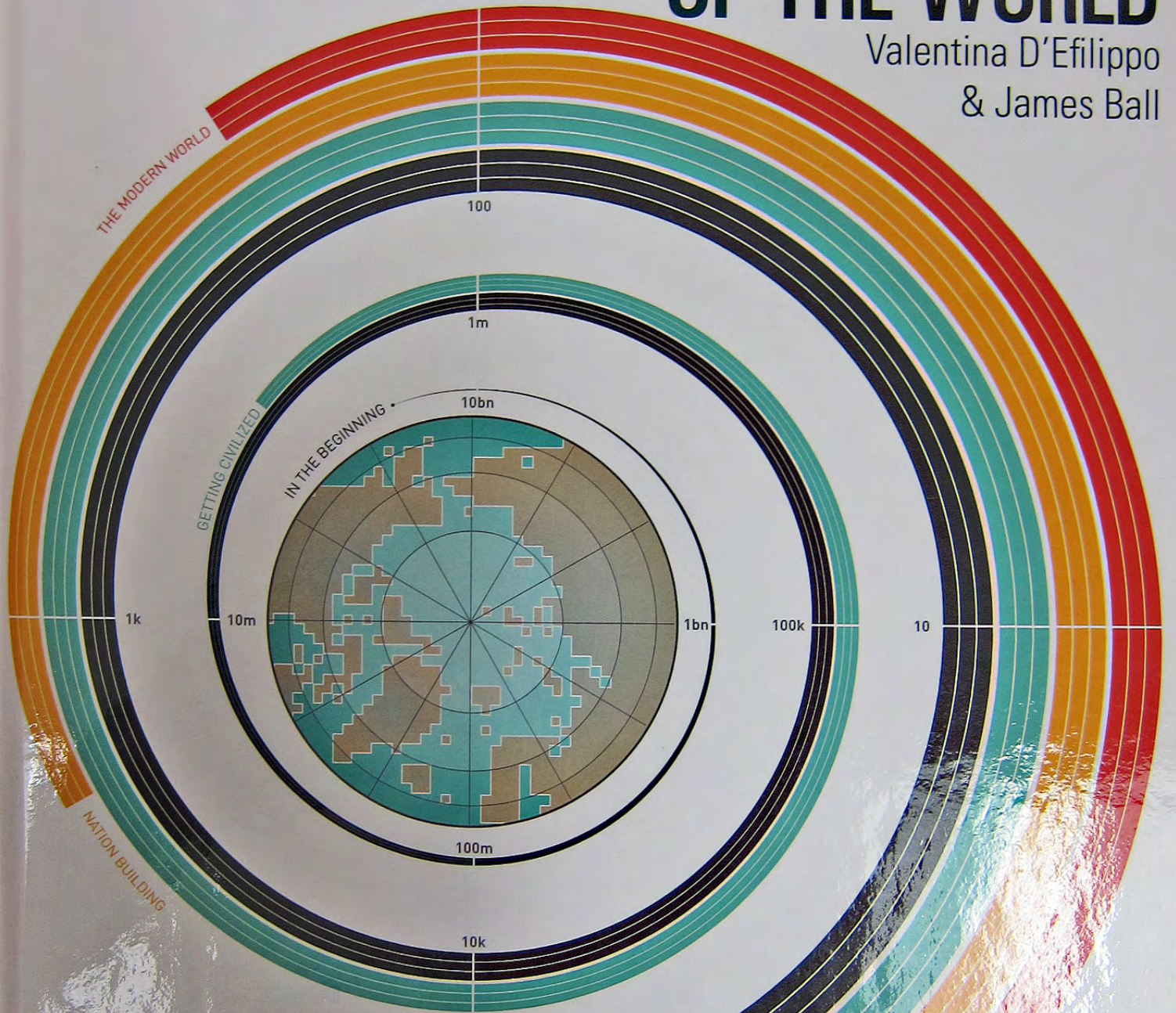


THE INFOGRAPHIC HISTORY OF THE WORLD

Valentina D'Efilippo
& James Ball



No. of years ago > 1

A rough guide to conflict

When we think about 20th-century wars, the two World Wars jump immediately to mind. What comes next depends on our generation, and our nation. For some, Vietnam would be the first candidate, for others, Korea – and for many under 30, Iraq or Afghanistan would be the obvious candidates.



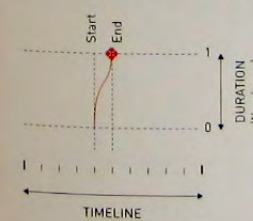
But to focus only on those conflicts misses countless others. Even deciding what to count can be contentious: does the struggle between Northern Irish loyalists and republicans qualify as war? What about elsewhere in the world?

One attempt to chronicle conflict is The Polynational War Memorial website. Its results are sobering: even taking only those wars and disturbances that claimed at least 10,000 lives, looking for conflict-free years is a tough task.

In the end, only two years of the 20th century were free of war – and, alas, almost no one on the planet was around to see them: 1907 and 1908. In all, the site registers 133 conflicts from 1900 to the present day (including a few wars from the 19th century that ran into the 20th).

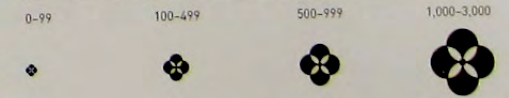
More chillingly still, the site keeps a tally of estimates of direct deaths due to those wars. At present, it stands at more than 95 million.

POPPY DIAGRAM

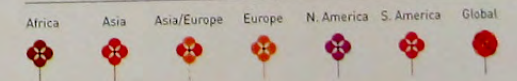


The remembrance poppy commemorates soldiers who have died in war. Each poppy in the diagram depicts a war of the last century (with more than 10,000 deaths). The stem grows from the year when the war started. The poppy flowers in the year the war ended. Its size shows the number of deaths.

NUMBER OF DEATHS IN THOUSANDS (POPPY'S SIZE)



REGIONS INVOLVED IN WARS (POPPY'S COLOR)



A different kind of revolution

It might have lacked the drama of a more traditional revolution, but the Industrial Revolution – in which Britain led the way – was perhaps the most significant step toward the modern era of anything in this book.

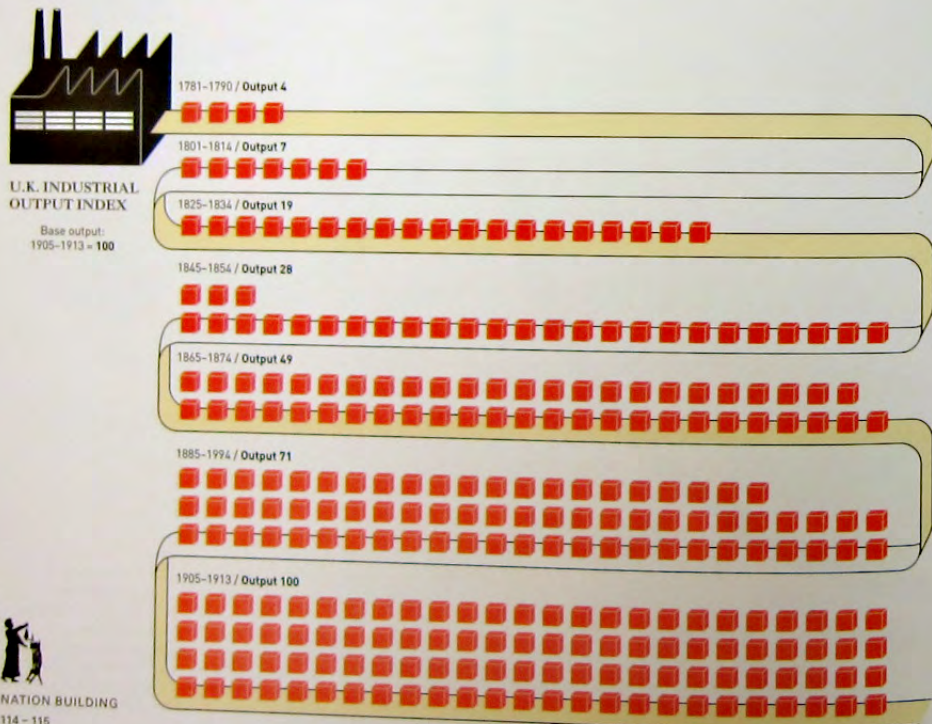
The Industrial Revolution was, on one level, perhaps a more sedate affair than its name suggests, with a first phase from around 1760 to 1830, which revolutionized the textile industry and led to the growth of factories and the decline of homework. A second phase was powered by a host of new technologies like the combustion engine and electricity.

What made the results so special was the symbiosis: advances in machinery (starting with better textile machines like the Spinning Jenny in 1764) led to shifts in how people worked, especially as looms leaped to industrial scale, requiring more capital than a houseworker could provide. These led to the growth of factories, and economies of scale – incentivizing the building of

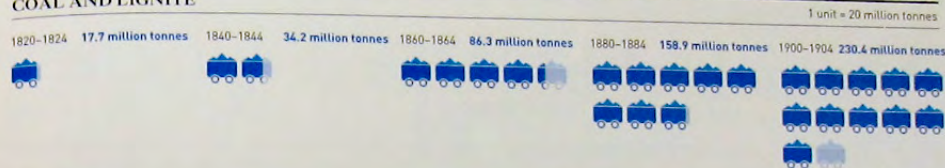
new, yet larger machines. The results were extraordinary. After centuries of only marginal increases in wealth or production, Britain skyrocketed. Industrial production increased 25-fold between 1780–90 and 1905–13. In 1780–90, the U.K. produced just 69,000 tonnes of pig iron (■). By 1875, it was making almost 6.5 million.

It was hardly a paradise, though. Skilled craftsmen bitterly mourned the death of their trades, children were sent to work at a very young age in brutal and dangerous workplaces, and workers rights, holidays, and health and safety all took decades to secure.

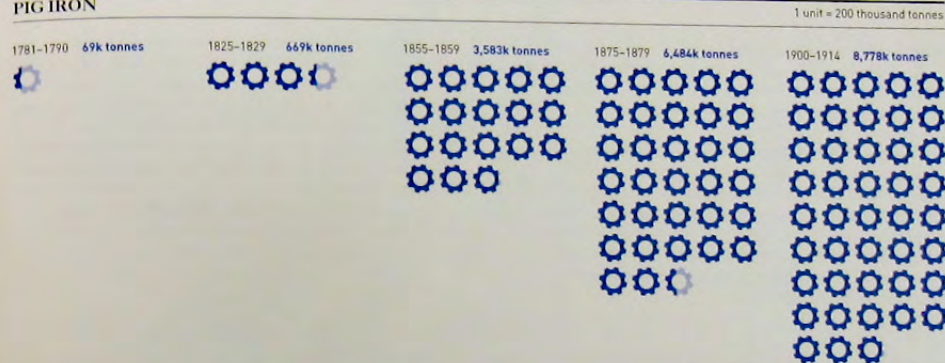
But over the course of just a few decades, virtually every comfort and convenience of the modern era – along with many of its ills too – were born.



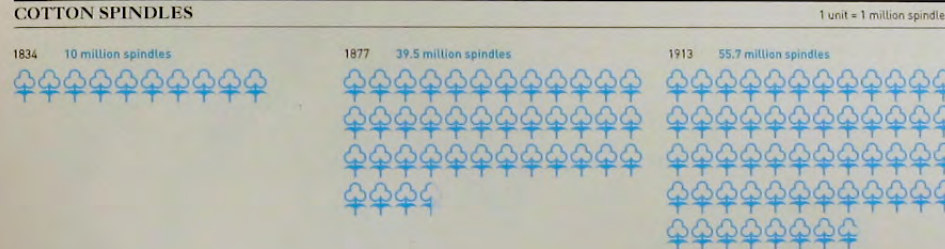
COAL AND LIGNITE



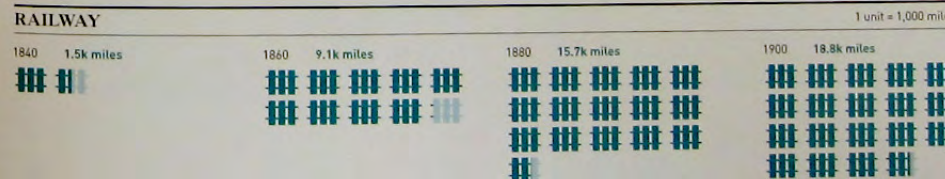
PIG IRON



COTTON SPINDLES



RAILWAY



U.K. PRODUCTION GROWTH

The language tree

The Bible tells a simple tale of the origin of the world's many tongues. Humanity, it claims, once lived all together and spoke just one language. The people worked together on a great tower in the center of a great city until God came and scattered them, altering their languages until hundreds existed, and the tower – the Tower of Babel – was abandoned.

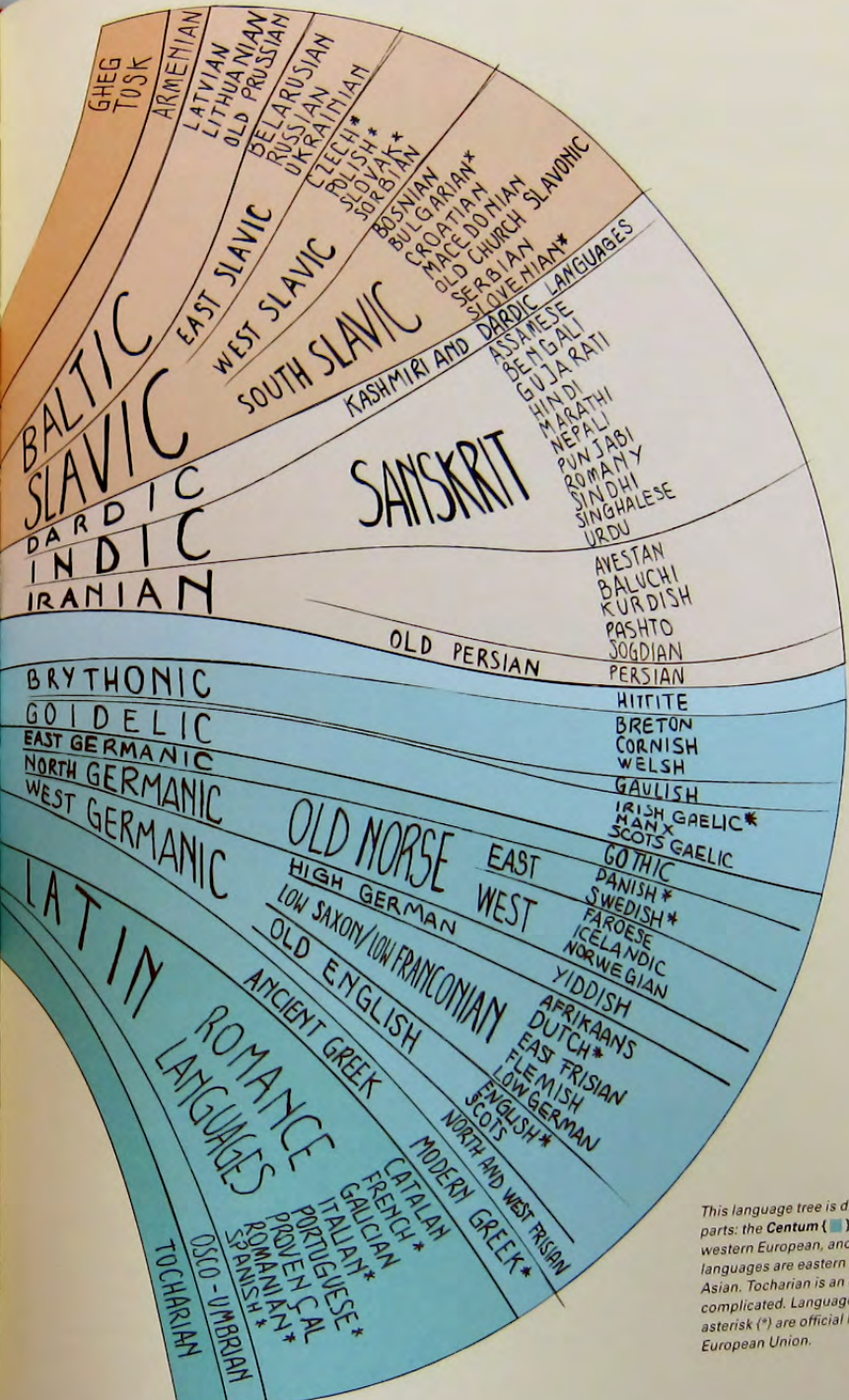


Proto-Indo-European languages

PROTO-INDO-EUROPEAN LANGUAGES

CENTUM LANGUAGES
SATEM LANGUAGES

ALBANIAN
ARMENIAN
BALTO-SLAVIC
INDO-IRANIAN
ANATOLIAN
CELTIC
GERMANIC
HELLENIC
ITALIC
TOCHARIAN



Like all the best stories, this one contains an element of truth: many of our languages share the same root, and changed as we spread out and wandered into new lands. While it's probably not true that we all spoke one language, many of the world's most prolific languages have the same origin: **Proto-Indo-European**, spoken around 6,000 years ago. It lies at the root of the language tree for many present-day tongues: English, Spanish, Hindi, German, French, Urdu, Russian and more. Almost half of all humans on the planet are native speakers of an Indo-European language, and we can count hundreds of such languages even if you ignore the thorny issue of where to draw the line between what some would think of as a

dialect and others might consider a language in its own right. If language is a tree, it's a gnarly and complex one: it's not as if languages subdivide and never re-merge. Take English: at various points in its history (usually thanks to invading or being invaded) it's come into contact with Latin (the Romans), Germanic languages (Vikings), French (the Normans) and others. It has constantly evolved and assimilated words and structures, and every few hundred years changes so much that a speaker of a few hundred years before would struggle to understand. Perhaps language is less of a tree than a river: while the banks stay roughly where they are, the water is always moving, separating, recombining ... but never the same.

This language tree is divided into two parts: the **Centum** (■) languages are western European, and the **Satem** (■) languages are eastern European and Asian. Tocharian is an exception, but it's complicated. Languages marked with an asterisk (*) are official languages of the European Union.

All about the money

It's easy (and fun!) to ignore the benefits of modern society. Frozen food tastes terrible, cities are soulless and devoid of nature, and we constantly hear about the miseries of sweatshops and evils of globalization. Frankly, the Industrial Revolution has got a lot to answer for.

Or does it? A fascinating set of figures – the life's work of the recently departed British economist Angus Maddison – suggests otherwise. He gathered figures for the size of the global economy from 1 CE to the present day. We're assuming they're estimates, because if he had a time machine, he kept it very cleverly under wraps.

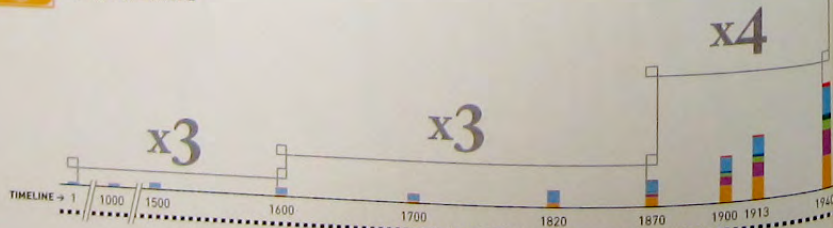
The results are pretty stark. Correcting (approximately) for inflation and purchasing power, the world got roughly **three times** (x3)

richer between year one and 1600.

To repeat that task – getting three times richer again – took about 270 years, taking us to 1870. By around the 1920s – a little over 50 years – the world's wealth had tripled again. Since then, that's happened two more times.

In short, after stagnating for almost two millennia, we've had an amazing economic boom, one that almost has to be seen to be believed. Lucky this is an infographics book, huh?

-  AFRICA
-  ASIA
-  LATIN AMERICA
-  FORMER USSR
-  U.S. & AUSTRALASIA
-  WESTERN EUROPE

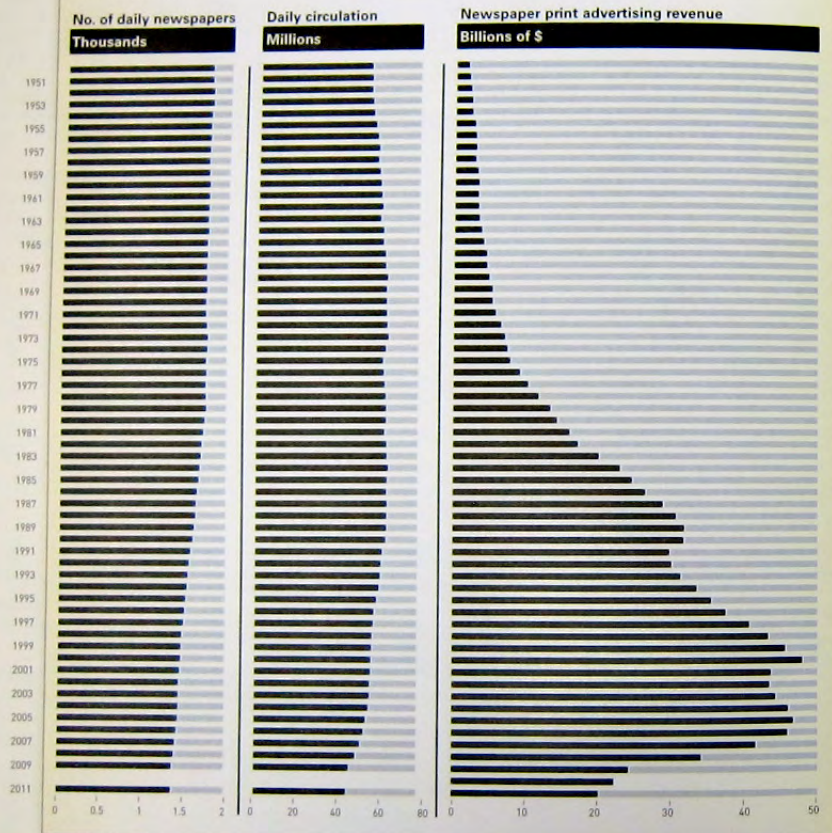


NEWSPAPER ASSOCIATION OF AMERICA

Breaking news

1950-2011 REPORT

FREE



Read all about it

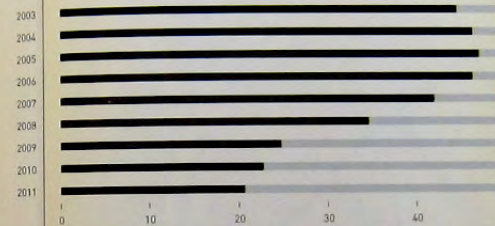
If you've ever despaired of anything you've read in the newspapers – tabloid sleaze, phone hacking, smears or bias – the man who's probably ultimately more to blame than any other is Johannes Gutenberg.

NEWSPAPER ASSOCIATION OF AMERICA

PRINT NEWSPAPER

2003-2011

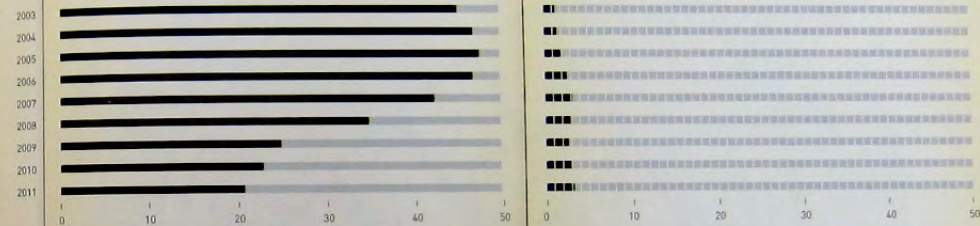
Total revenue (billion)



ONLINE NEWSPAPER

2003-2011

Total revenue (billion)



It was Gutenberg's invention of a printing press with movable type around the year 1439 that made possible the entire newspaper industry.

The first newspaper, which had grown out of newsletters and pamphlets, was published in Germany in 1605, while the oldest surviving paper in the world, the Swedish *Post-och Inrikes Tidningar*, began publishing in 1645. These days, it's online-only.

Looking at the economics of newspapers, it's not too hard to see why: the thing that's always driven their bottom line isn't the cash handed over by readers – it's the money received from advertisers. As classified ads and more have moved online, the papers have found themselves facing a serious problem.

The U.S. has the best data on this, but it's the same story around the world. In 1950, the U.S. had 1,772 daily papers. By 2011, this had plummeted to 1,382. Circulation rose between 1950 and 1990 from 53 million to more than 62 million. Then the internet arrived and it sank to 44 million.

The ad numbers are scarier still. In 2003, U.S. print advertising in papers was worth \$44 billion a year. By 2011, it was less than \$21 billion – and new online ads only filled \$3 billion of the gap.

Amid the gloom about the internet, there's one fact worth remembering: more people read the papers than ever. Take *The Guardian*: fewer than 250,000 people a day pick up a printed copy, but every month more than 68 million people worldwide read it online.

Truly, papers live in interesting times...

Painting by numbers

This might irk the pragmatically minded, but the evidence all points one way: art predates civilization. While an efficient, organized species might have focused its energies on plumbing, agriculture or urban development first, our early ancestors seem to have been more interested in engaging with their muse.

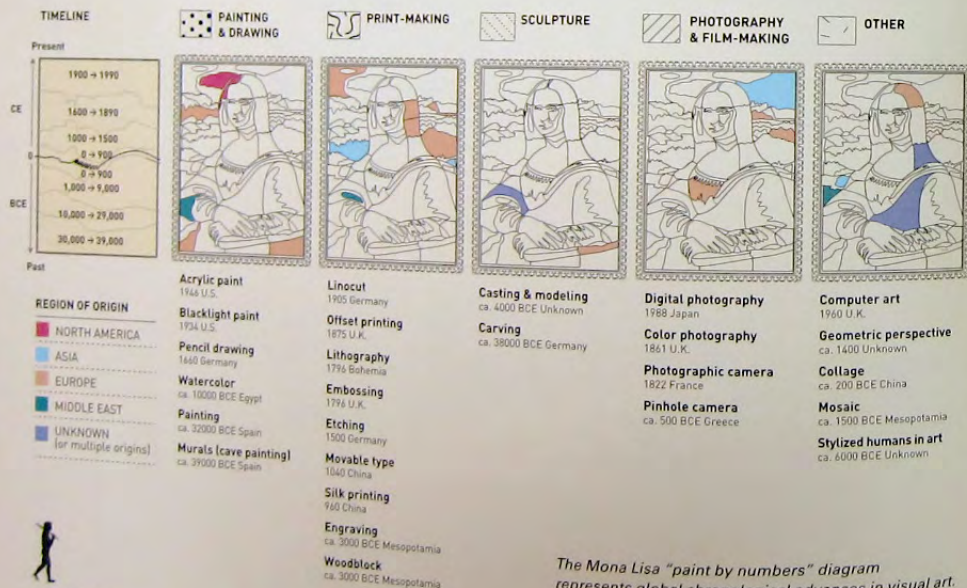
The oldest known **cave paintings** (•) were discovered in Spain and date back around 41,000 years. That wasn't all we were up to at that time, either: the oldest **sculpture** (■) ever found dates back around 40,000 years, too. Not long after that, our creative efforts brought forth early jewelry and ornamentation. That's not to say early art was necessarily what we might describe as "good."

The first examples we have of recognizable humans are about 8,000 years after the first cave paintings, and despite earlier attempts, formal perspective in art – now thought of as a rather essential technique – is only about 600 years old. In earlier art, size wasn't used to suggest scale, but rather importance. The tools of the trade have also come a long way. Basic **watercolors** (■) were

used as far back as cave painting, while basic printing has been used to decorate cloth in China for almost 2,000 years. Perhaps, then, it's surprising that the **pencil** (■) (which has always been made from graphite, never lead) is only about 450 years old.

As for what to draw on, the earliest options were papyrus (a variant of paper) or parchment (typically animal skin), which was used when trade disputes shut down the availability of the former. China discovered paper at around the same time, but it didn't widely reach the West for over a millennium.

Once paper caught on, we got pretty attached to it. Which is handy, as this book would have been quite pricey if we'd had to print it on vellum.



The Mona Lisa "paint by numbers" diagram represents global chronological advances in visual art. The painting is broken into segments to reveal when (bottom to top, left to right) and where (by color) each discipline (by pattern) originated.



REVOLUTIONS

- Number of deaths**
- 2,000 DEATHS
- 1 YEAR
- Duration**
- 1 YEAR
- Outcome**
- ☐ COMMUNISM
- ☐ FASCISM
- ☐ INDEPENDENCE
- ☐ NEW MONARCH
- ☐ REPUBLICANISM
- ☐ THEOCRACY

Working men of the world, unite!

"Working men of the world, unite! You have nothing to lose but your chains" was Marx and Engels' plea to the proletariat. Had they been entirely truthful, they might have added "and maybe a limb or two, possibly your freedom, and maybe your life," but it pays to be positive when recruiting for the cause.

The reality is that revolutions are no picnic: not only do they tend to be violent in themselves, but they're often followed up by some pretty nasty atrocities. It's enough to lead a cynical man to ponder the word: a revolution of a wheel, after all, leaves you pretty much back where you started.

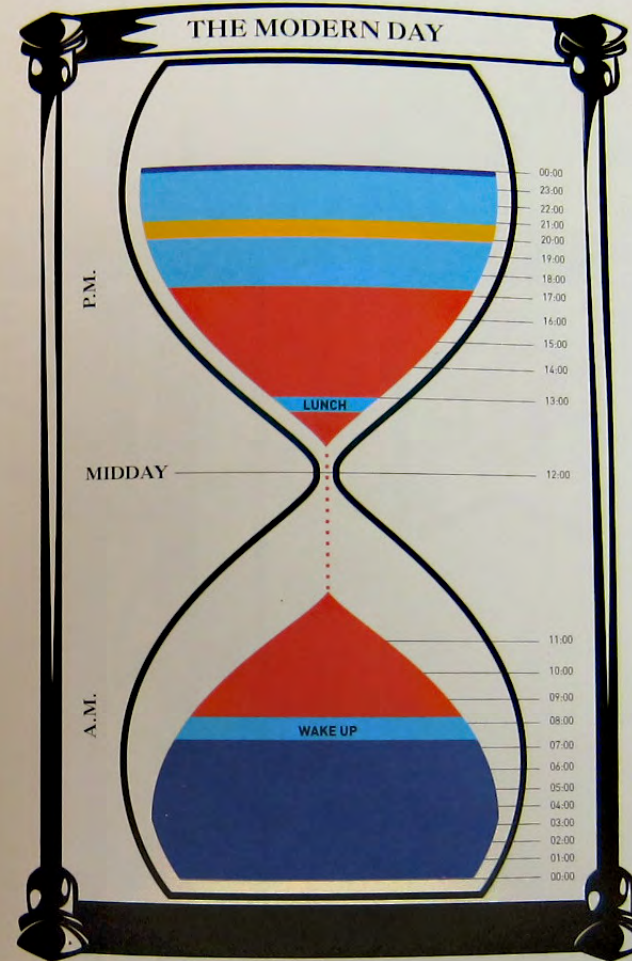
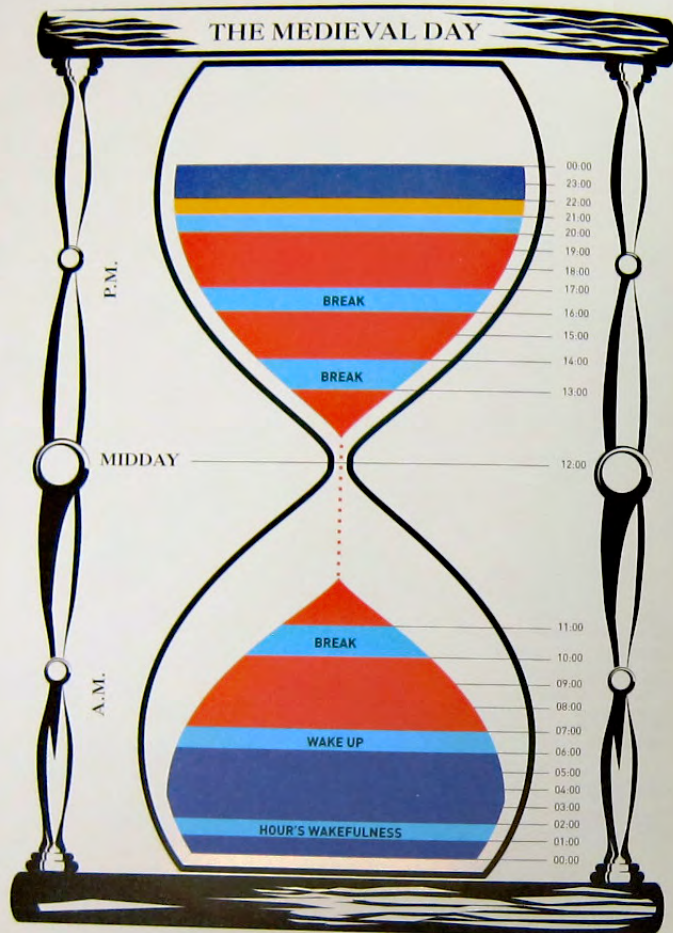
But still, such events have changed the world for the better and shaped many of our modern nations, so here we've compared a couple of the more significant revolutions and civil wars. Death counts have been kept to the duration of the revolution - not any subsequent actions of the new governments.

One revolution isn't quite like the others: England's **Glorious Revolution**. The elites, unhappy with their monarch, politely invited a foreign ruler to invade, and discouraged opposition. As he was helpfully married to the current monarch's daughter, once the unpopular king (James II) had fled the royal line could continue largely uninterrupted. A very British coup indeed (and largely bloodless, though it did spark other conflicts).

Others were less fortunate: 19th-century revolutions had body counts in the hundreds of thousands, and in the 20th century they numbered in the millions. Whether the triumphant revolutionaries felt their new rulers were worth the trouble is largely, alas, unknowable...

The medieval day

History tends to pay more attention to the ruling classes than to those further down the social ladder. There's no shortage of reasons for this – the documentation is better, their actions had greater ramifications, and they often lived (and died) in grisly and colorful ways. But even if the lives of peasants were thoroughly documented, they'd probably still not get all that much attention – as much of their lives was pretty monotonous.



ACTIVITIES

- WORKING
- SLEEPING
- DINNER
- OTHER ACTIVITIES (leisure, resting, etc.)

While the pattern of modern life – work, sleep and play – might not differ from the medieval ones, the balance is much different: in the modern world, we rise later, and thanks to cheap artificial light, go to bed far later too. But the big bonus of the 21st century? Much more free time.

Throughout medieval history, most common people were serfs, bound to the land and effectively owned by their lord. A combination of the Black Death (reducing the labor force and so increasing the survivors' bargaining power), peasants' uprisings, and a handful of other factors led to serfdom largely

dying out in England. But free or not, a laborer's day was tough (though in those more religious times, up to 100 days a year qualified as holy days or public holidays).

In summer, he'd be awake by 6 a.m. and working by 7 a.m. (in winter, when light was scant, sleeping in until 8 a.m. or so was common).

From 7 a.m. until close to dusk – 8 p.m. or so – he'd be working the fields, with breaks perhaps at 10 a.m., 1 p.m. and 4 p.m., to get some respite from the physical labor.

Nighttime, though, held a curiosity by modern standards: our peasant and his family would probably not sleep all night. Typically,

at some point in the night – let's say 1 a.m. – the house would be awake. A time used for, ah, intimate moments, quiet contemplation, or even, on occasion, to eat. This two-sleep cycle was common for perhaps most of our history, and only really died out with cheap and abundant artificial light. Who knows? Maybe we're missing out.



CONFLICT / TIME DEATH TOLL / DEATH TOLL EQUIVALENT TO 20TH-CENTURY POPULATION



NATION BUILDING
102 - 103

To end all wars

The Second World War is often described as the deadliest in the world's history, with a terrible toll of 55 million dead over its six-year course.

No other conflict or man-made catastrophe has killed more than that, but simple numbers alone are not the only way to think about war. Take the US, which suffered the loss of 450,000 lives – second only to the **Civil War's** total of 620,000 dead across both sides.

Yet the population of the U.S. was four times higher in 1940 than 1860 – meaning the relative loss during the Civil War was even worse. The Civil War killed around one in 50 Americans, while the **Second World War** killed around one in 300.

Both were terrible, but the scale of the losses relative

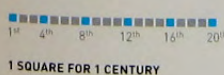
to the size of the population was different by orders of magnitude. This is the principle behind work by Harvard professor Stephen Pinker into violence through the ages. He took 21 of history's worst atrocities, and rescaled them relative to the 20th-century population.

The results are displayed on this page. The heartening conclusion amid the grim body counts? The 20th century was not as bad as it first seemed: only one of the 10 worst atrocities happened in the last 100 years. We are, it seems, getting less, not more, violent with time.

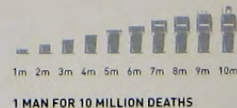
As silver linings go, that's not a bad one.



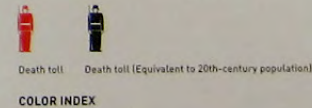
TIMELINE



NUMBER OF DEATHS



MODERN POPULATION COMPARISON



WHO'S BEEN RULING SOME OF THE WORLD'S MOST SIGNIFICANT NATIONS?

Who's in charge here?

This is not your average history book; we wanted to avoid getting too hung up on kings, queens, dates and all that stuff. But we'd be sorely letting you down if we didn't at least give you enough to bluff some knowledge of the basic history of some of the world's most significant countries.

So here, across two short pages, is 1,000 years of history of five of the world's most powerful nations:

England is pretty straightforward: the Normans walk in and take over in 1066, and then different royal families take their turn through to 1649, when Charles I's head is forcibly removed. After trying 11 years of being a republic, England goes back to royal succession (William of Orange excepted) right through to the present day.

France was happy enough with its monarchs until 1792, after which followed a rather indecisive patch: from republic, to empire, to monarchy, back to republic, then empire, then republic. Then, to further confuse matters, Nazi Germany invaded and set up a vassal state. Since then, France has managed to only go through two further republics. Nice work!

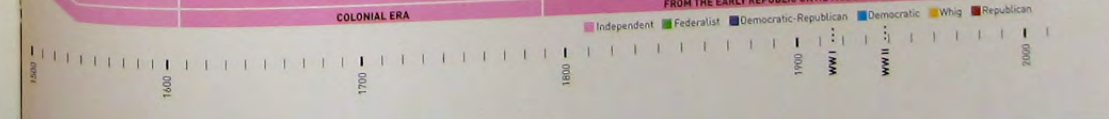
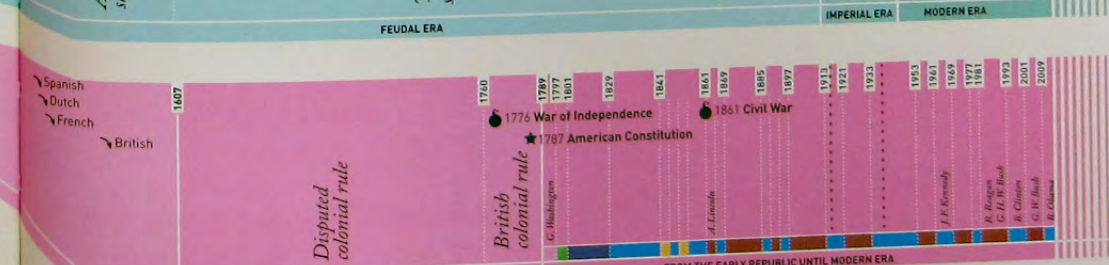
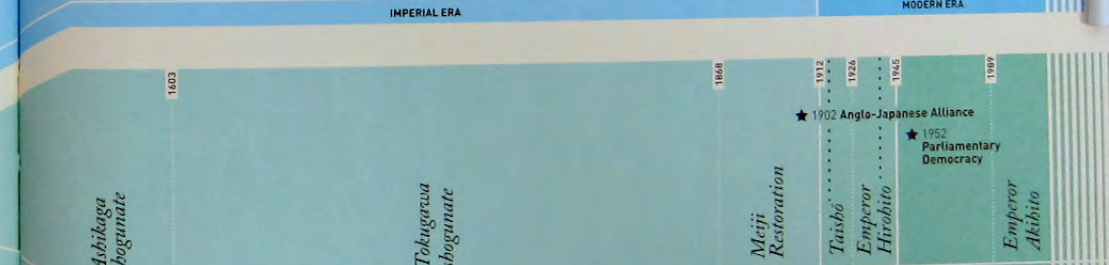
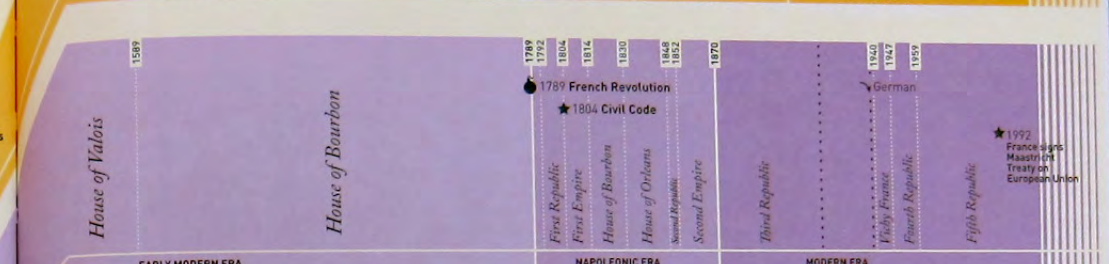
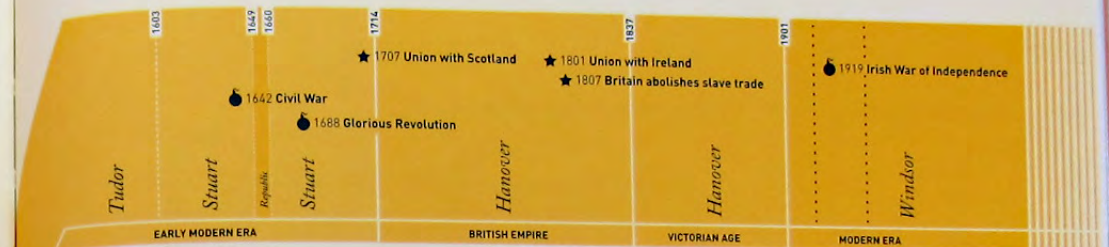
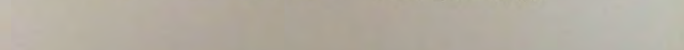
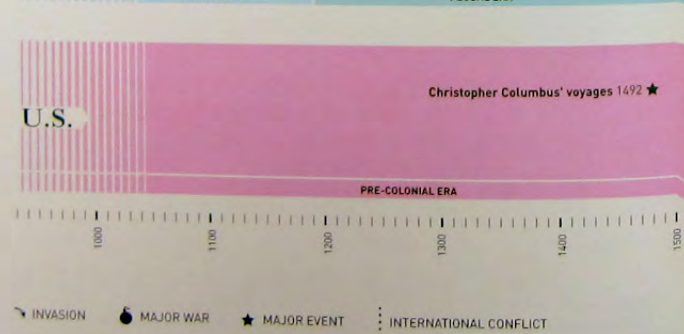
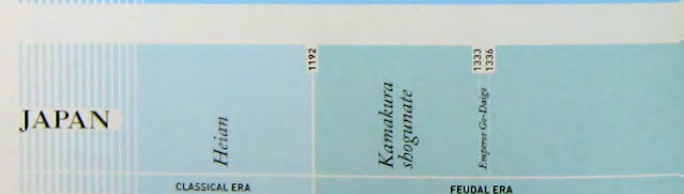
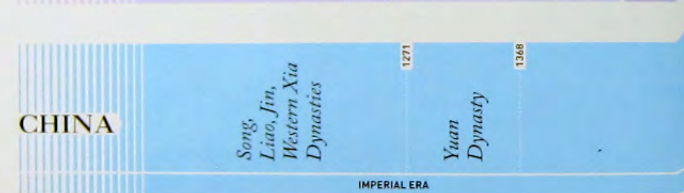
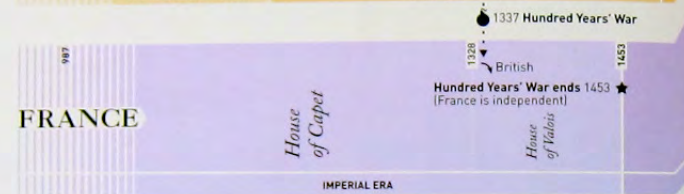
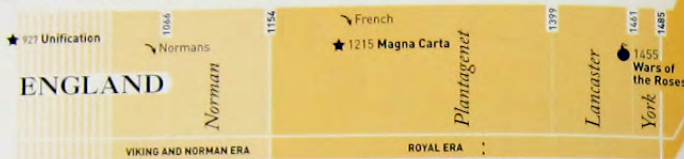
China enjoys a pretty straightforward 640 years with just three different ruling dynasties – but then things get more complicated: phase one of the country's revolution introduces the Republic of China. After an on-again-off-again civil war, this regime is replaced (except in Taiwan) by the People's Republic of China, and communist rule, which continues to this day.

Japan has been ceremonially ruled by the same royal family for longer than any other nation – the current emperor is the 125th in his line. But between 1192 and 1867 the real power lay with the military (bar three years). Since then, democracy has asserted itself, with the emperors continuing in an increasingly ceremonial role.

The **United States** was the disputed turf of numerous colonial powers from the founding of Jamestown in 1607 to Britain finally kicking France off the territory in 1760. But just 16 years later, a revolutionary war began. The presidency was established in 1789, and since 1853 has bounced back and forth between the same two parties.

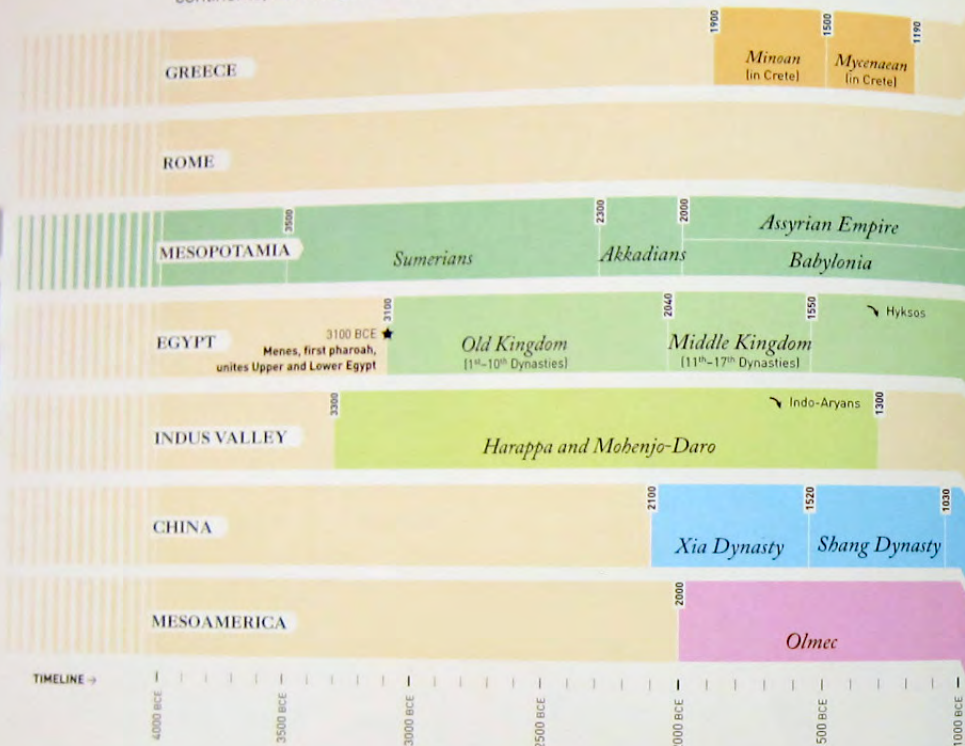


NATION BUILDING
126–127



I used to rule the world

And so we come to what we like to call the Classical era, when humanity was getting its act together, had the basics of technology down, and was preparing to found some major world civilizations. Humanity's tribes, which were scattered across numerous continents, now began to put down roots.



- ↘ INVASION
- MAJOR WAR
- ★ MAJOR EVENT

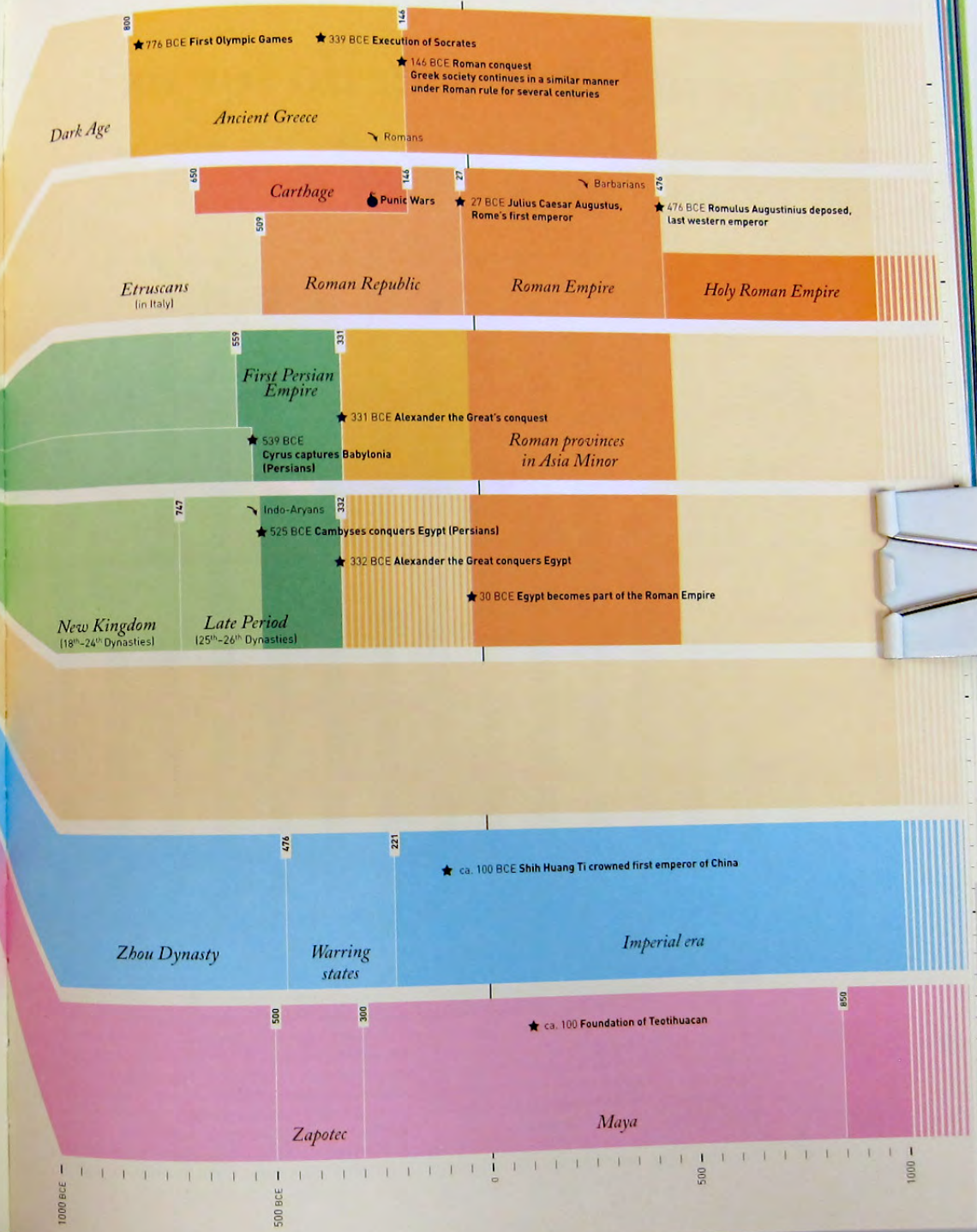
What followed was a chaotic, overlapping sequence of rulers, empires, wars and more. It can make it quite hard to keep track – so we've made this at-a-glance guide to the ancient world. Interestingly, it also shows the impressive effect a few individuals can have on the course of history.

Take **Mesopotamia** (■). Its earliest settlements date back to 5000 BCE. After thousands of years in existence, Cyrus the Great succeeded in conquering his neighbors, and founded the first **Persian Empire** (■). But what goes around, comes around: a mere two centuries later Alexander the Great came and not only conquered the

first Persian Empire, but did it just a year after doing the same to Egypt.

A few centuries later, and the **Roman Republic** (■) was top dog – conquering Greece and Carthage in turn. Around the time of Julius Caesar, in the first century BCE, there began a struggle for power, and the Republic became an **Empire** (■) (yes, that's where George Lucas got the idea from). A mere 500 years later, in 476 CE, the Western Roman Empire collapsed.

Despite the Holy Roman Empire in the east continuing through to 1453 CE, it's 476 CE which is generally considered to mark the end of the Classical Era. But hey, it was fun while it lasted.



Gotta get yourself connected

If you're living in the West, the true scale of the communications revolution over the last decade has almost certainly passed you by.

GLOBAL SUBSCRIPTIONS

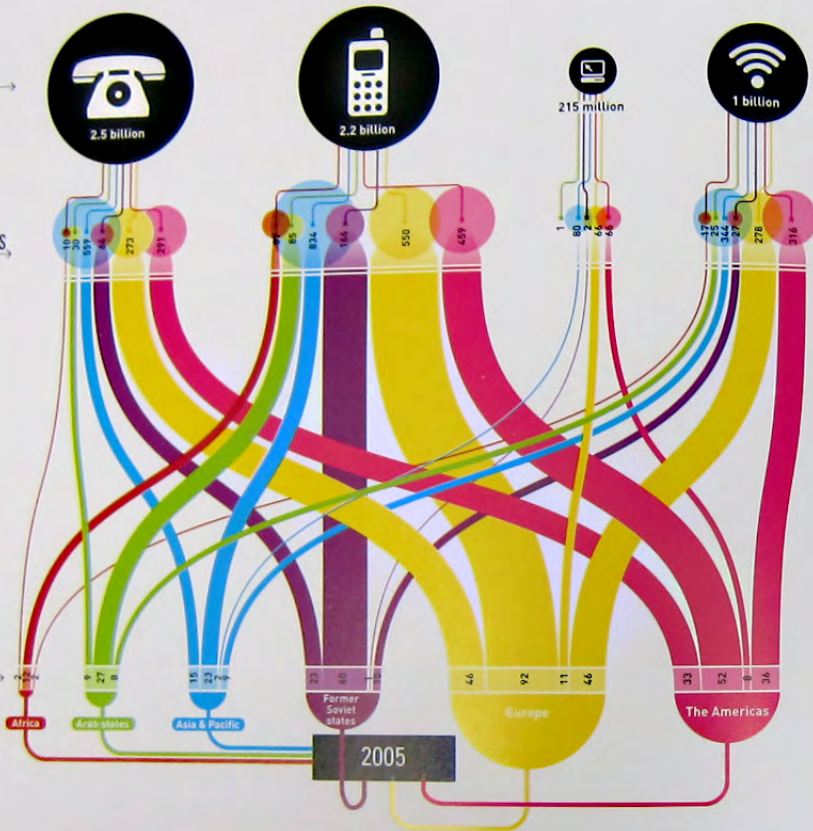
No. of total world-wide subscriptions by communication medium.

REGIONAL SUBSCRIPTIONS

No. of subscriptions for each communication medium split by geographical area (in millions).

SUBSCRIPTION RATE

Subscriptions per 100 inhabitants within each region by different communication media.



2005

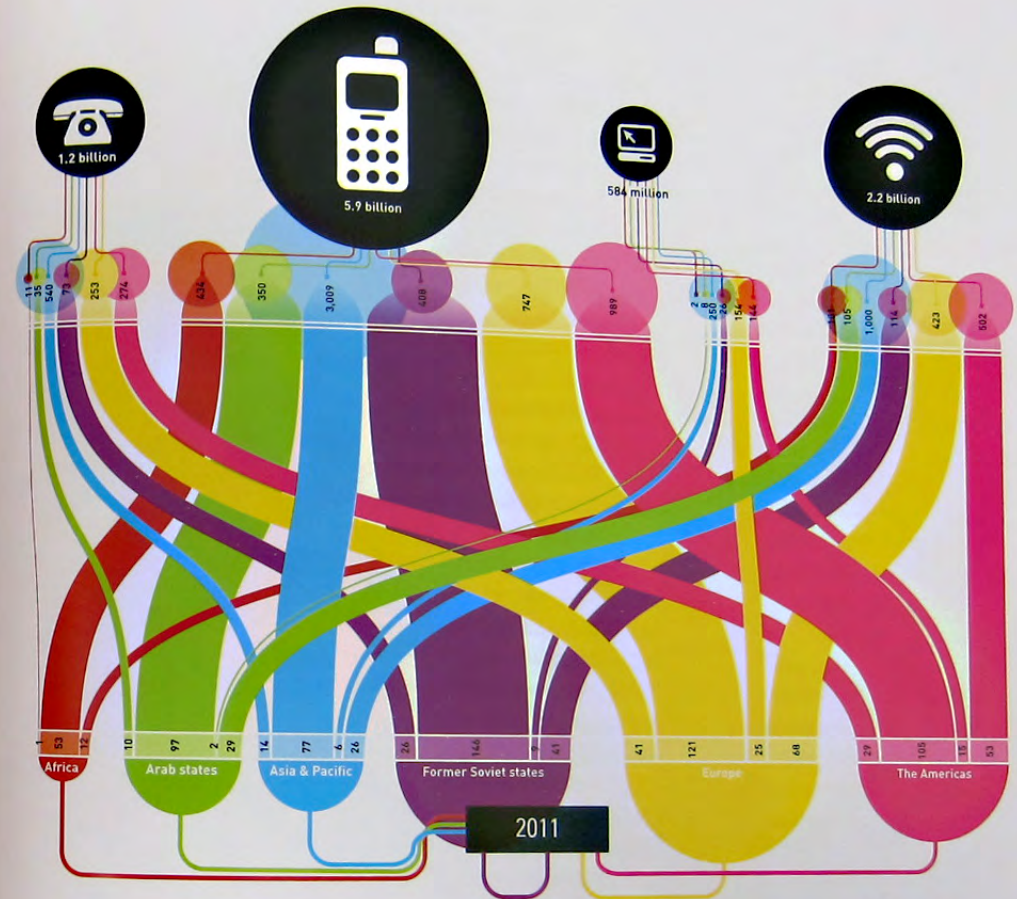
Cell phones have changed our lives in so many ways, from the very important to the ridiculously trivial. But important as they've been for us, it's what cells have done for the rest of the world that is truly remarkable.

Imagine if rather than an extra convenience, cell phones represented the first time you'd had easy contact with the outside world. For hundreds of millions in Africa and Asia, this is exactly what's happened.

Landlines basically passed Africa by. In 2005,

there were only 1.5 landline connections per 100 households – and by 2011 that had fallen, not risen (in Asia the same pattern's true, but higher – 15 per 100 in 2005, 14 per 100 today).

But what's happened with cell phones is startling: where there were 12.4 cell subscriptions per 100 Africans in 2005, just six years on there were 53.1. Given that in some African countries up to five people can share one cell phone account, this rate of growth is startling and unprecedented. Europe, by contrast, has



2011

more cell phone accounts than people – 1.2 per person! The world is connected for the first time.

The effect is as remarkable elsewhere. Cells in Asia leapt from 22.6 per 100 people to 76.7. In the Arab states, the jump was from 27.1 to a huge 96.9. Technological change has never happened so quickly.

The developing world's leapfrogging of a whole generation of expensive wired technology has had domino effects, too. The International Telecommunications Union

estimated there were one billion people online in 2005. By 2011 it had grown to 2.2 billion. About 84 million of those come from Africa (despite only one household in 500 having wired broadband). Around 330 million come from Europe and the Americas.

But an amazing 656 million new online subscribers come from Asia. The balance of the online world is shifting seismically every day, and the speed of that change is doing anything but slowing...

- LANDLINE
- CELL PHONES
- FIXED (WIRED)-BROADBAND
- INDIVIDUALS USING THE INTERNET
- AFRICA
- ARAB STATES
- ASIA & PACIFIC
- FORMER SOVIET STATES
- EUROPE
- THE AMERICAS



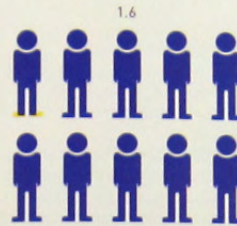
TOP FIVE COUNTRIES BY GUN DEATHS



The top five of gun deaths is depressingly predictable: **Brazil, Colombia, Mexico, Venezuela** and the **United States**, with more than 78,000 between them.



- TRINIDAD AND TOBAGO -

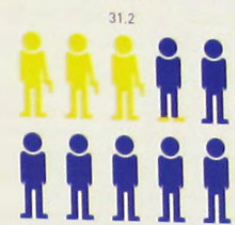


GUNS PER 100 PEOPLE

- U.S. -



- FRANCE -



- TRINIDAD AND TOBAGO -

58

GUNS PER GUN HOMICIDE

- U.S. -

29,521

- FRANCE -

542,857

Other statistics from the data are less conclusive. For instance, the tiny country of **Trinidad and Tobago** has one gun murder for every 58 firearms owned. If the **U.S.** had that same rate, it would be looking at 4.6 million gun murders a year, rather than 9,000. In reality, there is only one gun murder for every 29,500 guns in U.S. hands.

In **France** the gun-ownership picture seems even more benign. The country has 19 million guns in private hands, but just 35 gun murders: that's one murder per 540,000 weapons.

Whether it's different weapons, different policing or different cultures, there's clearly more going on than just more guns = more murders.

But what? It seems as if - maybe - data doesn't solve mysteries. People solve mysteries.

WHICH COUNTRIES LIKE TO DRINK AND SMOKE?

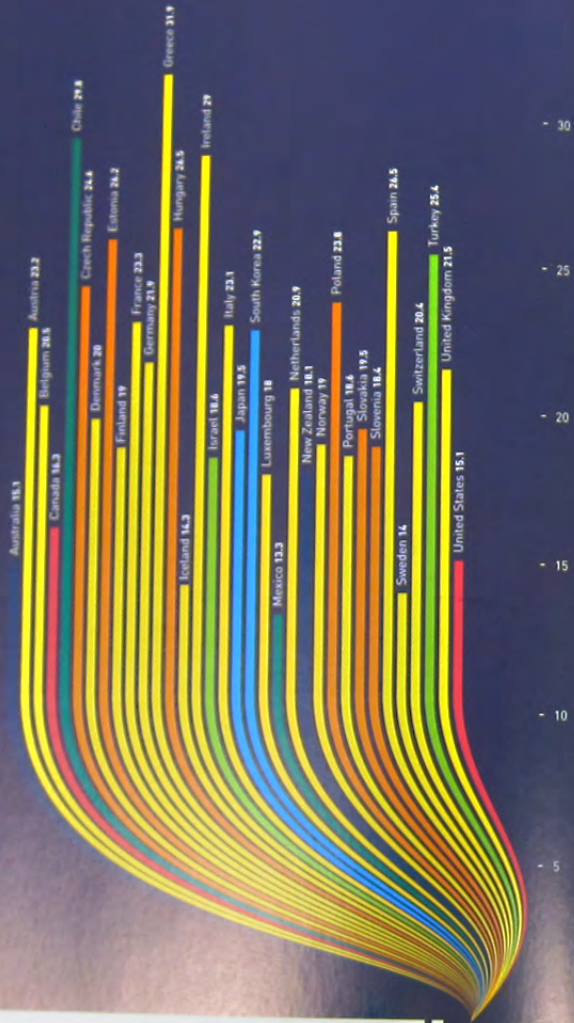
Cigarettes and alcohol

"I was looking for action," complained Liam Gallagher in the mid-90s hit, "but all I found was cigarettes and alcohol."

Looking at the data, many of us could say the same – figures collected by the OECD show consumption of both remains a pretty common pastime, despite being potentially disastrous for us.

Let's get the health issues out of the way. Smoking kills. The estimates vary, but regular smoking reduces your life expectancy by somewhere between 10 and 18 years. On top of the many carcinogens contained therein, cigarette smoke is also radioactive (really) – it contains polonium, the radioactive material used to kill the Russian defector Alexander Litvinenko in London in 2006.

The evidence on alcohol is far more mixed – low levels of consumption may be beneficial to health – but alcoholism is deadly, knocking around a decade or so off life expectancy.



0-35 LITERS OF PURE ALCOHOL PER PERSON PER YEAR



GEOGRAPHICAL AREAS

- LATIN AMERICA
- NORTH AMERICA
- ASIA
- MIDDLE EAST
- EASTERN EUROPE
- WESTERN EUROPE
- OCEANIA

So, who puffs and drinks the most? Topping the smokers' chart are **Greece, Chile and Ireland**, with around 30% of adults counting themselves as regular smokers.

Sweden, Australia and the U.S. come out as temperate on cigarettes, with only around 15% or so of the population regularly puffing away.

The **U.K.** is about mid-table on both measures. The typical Brit is unlikely to smoke (21.5% do), and drinks the equivalent of around 10 liters of pure alcohol a year – which is still a fairly hefty 7 pints of beer a week.

People in both **Israel and Turkey** drink far less (2.4 liters and 1.5 liters respectively), but in other countries people drink much more. **Austrians** top 12 liters, and **Luxembourg** takes the prize with a huge 15 liters of alcohol per person per year.

Bottoms up!



Carbon sinks (and kitchens, cars, emails)

Climate change might be one of the biggest threats to our way of life, a challenge the world's governments meet regularly to discuss, and something set to make millions homeless – but it would make a terrible Bond villain.

The problem with stuff that acts slowly is that however serious it is (and all the evidence suggests climate change really is pretty grave), it doesn't really scare us all enough to make us change our ways.

Seeing as we don't all seem set to break down our cars for scrap, abandon electricity and move to eco-villages, we're left looking for other solutions to the problem, and some of these are looked at in the next few spreads. But just because we don't want to change our lifestyle doesn't mean there's nothing we can do.

The examples across this page show that oftentimes, it ain't what we do, it's the way that we do it that affects how much carbon we emit. **Washing your dishes** (■) under a running tap with scorching hot water will use about 8 kg of carbon dioxide. Doing it under cold water will leave you with a carbon footprint of zero. Sadly, it might also leave you with tired arms and yucky dishes (and consequently, probably pretty unhappy houseguests). A happy medium – using a dishwasher – uses less than 800 g.

Ditching milk from your tea (■) cuts its carbon footprint in half. **Talking less on your cell** (■) saves masses of energy – as does **cutting down on email attachments** (■) (so only send photos of cats if they're really hysterical. That's still allowed).

Maybe the coolest example – if it's cheating a bit – is how you use the money in your pocket. **A buck fifty spent on a bargain flight** (■) generates about 10 kg of CO₂. Spending it on a lawyer uses about 160 g. Or, put it in a really efficient rainforestry project, and you might save 330 kg.

Take a look opposite at what saves a lot, and what saves very little.

MANUFACTURING A NEW CAR



Carbon footprint – TONNES

- LAND ROVER DISCOVERY, top of the line
- FORD MONDEO, medium spec
- CITROËN C1, basic spec
- A YEAR AT 1 HOUR OF CALLS PER DAY
- A YEAR AT 30 MINS OF CALLS PER DAY
- A YEAR AT 10 MINS OF CALLS PER DAY

USING A CELL PHONE



SPENDING \$1.50 ON TRAVEL



Carbon footprint – KILOGRAMS

- BUDGET FLIGHTS
- FLIGHTS
- GAS FOR YOUR CAR

WASHING DISHES



- BY HAND, extravagant use of water
- DISHWASHER AT 55°C
- BY HAND, minimum water, not too hot

DOING A LOAD OF LAUNDRY



- 60°C, combine washer/dryer
- 40°C, tumble-dried in vented dryer
- 30°C, dried on the line

DRINKING A PINT OF BEER



- EXTENSIVELY TRANSPORTED BOTTLED BEER
- LOCAL BOTTLED BEER
- LOCALLY BREWED CASK ALE AT A PUB

READING A NEWSPAPER



- DAILY MAIL, recycled
- SUN, recycled
- GUARDIAN, recycled

CYCLING A MILE



- ENERGY FROM BACON
- ENERGY FROM CEREAL AND MILK
- ENERGY FROM BANANAS

HAVING A CUP OF TEA



- WHITE, boiling twice the required water
- WHITE, boiling only required water
- BLACK, boiling only required water

DRYING YOUR HANDS



- STANDARD ELECTRIC DRYER
- ONE PAPER TOWEL
- DYSON AIRBLADE DRYER

SENDING AN EMAIL



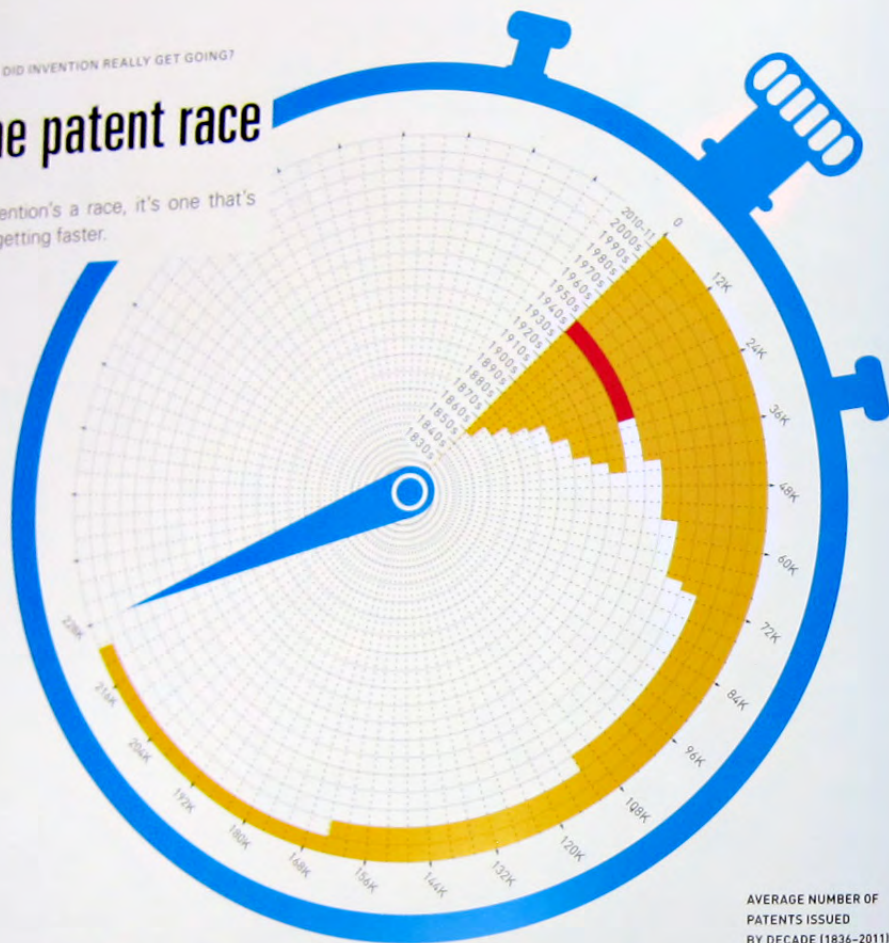
- EMAIL WITH LARGE ATTACHMENT
- NORMAL EMAIL
- SPAM EMAIL



WHEN DID INVENTION REALLY GET GOING?

The patent race

If invention's a race, it's one that's only getting faster.



AVERAGE NUMBER OF PATENTS ISSUED BY DECADE (1836-2011)

The current U.S. patent system began in 1836, when 109 patents were granted, and that number has increased ever since. By 1899, when patent commissioner Charles H. Dowell apocryphally said, "Everything that can be invented has been invented," more than 23,000 new patents were issued. In 2011, that total had shot to more than 220,000.

The biggest lull in mankind's creativity over last century was war, with the years following the **Second World War** (■) seeing a huge drop-off in inventions, with less than half the patents of the years just before the biggest conflict the world has ever known.

Paths to patent don't often run smoothly: Alexander Graham Bell's patent for the telephone, perhaps the most valuable ever granted, was issued in 1876, thirty years after the

concept of a telephone was first mooted. The first patent for a mobile phone was issued less than a century later, in 1969. Another of the world's most important patents – for the production of penicillin – lies not with its discoverer Alexander Fleming, but with the man who found how to mass-produce the chemical, Andrew Moyer, who was granted it in 1948. Some wonder whether the patent system is broken. The year 2010 saw 60,000 more patents than the year before – many for tiny developments in software – as they shift from being a form of protection to a weapon of legal war between the world's biggest technology giants, who file, purchase and barter over thousands at a time. In 175 years the U.S. has issued 8 million patents. At the current rate it would take fewer than 36 years to issue that many again.



SHARE OF TOTAL PATENTS ISSUED BY SECTOR

139,014	COMPUTING
116,898	IMAGING/OPTICAL PRODUCTS
116,758	PROFESSIONAL ELECTRONICS
92,719	SEMICONDUCTORS
75,787	CONSUMER ELECTRONICS
71,448	CHEMICAL MANUFACTURING
71,426	AUTOMOTIVE
47,984	ELECTRICAL SYSTEMS
38,712	INDUSTRIAL
37,443	TELECOMMUNICATIONS
36,024	ELECTRONICS
31,703	CONSUMER PRODUCTS
24,293	DEFENSE
8,273	AEROSPACE
7,844	PETROLEUM

NUMBER OF PATENTS BY SECTOR 2011