

## THE WORLD IS FLAT: A BRIEF HISTORY OF THE TWENTY-FIRST CENTURY

by Thomas Friedman

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- Columbus: Finding the shortcut by sea to India, at a time when the Muslim powers of the day had blocked the overland routes from Europe, was a way for both Columbus and the Spanish monarchy to become wealthy and powerful.
- When Bill Clinton was elected president in 1992, virtually no one outside of government and the academy had e-mail.
- While the dynamic force in Globalization 1.0 was countries globalizing and the dynamic force in Globalization 2.0 was companies globalizing, the dynamic force in Globalization 3.0 – the thing that gives it its unique character is the newfound power for individuals to collaborate and compete globally.
- Berlin Wall fell on 11/9/89. Before 1989, you could have an Eastern policy or a Western policy, but it was hard to think about having a “global” policy.
- The first IBM PC hit the markets in 1981. At the same time, many computer scientists around the world had started using these things called the Internet and e-mail. The first version of the Windows operating system shipped in 1985, and the real breakthrough version that made PCs truly user-friendly – Windows 3.0 – shipped on May 22, 1990, only six months after the wall went down.
- The mathematical-based protocols, which enable digital devices to talk to each other, were like magical pipes that, once you adopted them for your network, made you compatible with everyone else, no matter what kind of computer they were running (FTP, HTTP, SSL, MSTP, POP, and TCP/IP).
- Netscape was sold for \$10 billion to AOL, which never did much with it.
- Bubbles and booms may cause bankruptcies, but they also often do drive innovation faster and faster, and the sheer overcapacity that they spur – whether it is in railroad lines or automobiles – can create its own unintended positive consequences.
- Copper wires can carry very high frequencies, but only for a few feet before the signal starts to degrade in strength due to certain parasitic effects. Optical fibers, by contrast, can carry very high-frequency optical pulses on the same individual fiber without substantial signal degradation for many, many miles.
- What PayPal did was enable people, individuals, to accept credit cards. I could pay you as an individual seller on eBay with a credit card. This really leveled the playing field and made commerce more frictionless.
- The word open-source comes from the notion that companies or ad hoc groups would make available online the source code – the underlying programming instructions that make a piece of software work – and then let anyone who has something to contribute improve it and let millions of others just download it for their own use for free.
- A Web server is a software program that enables anyone to use his or her home or office computer to host a Web site on the World Wide Web. When your Web browser goes to [www.amazon.com](http://www.amazon.com), the very first piece of software it talks to is Apache. The browser asks Apache for the Amazon Web page and Apache sends back to the browser the content of the Amazon Web page. Surfing the Web is really your Web browser interacting with different Web servers.

- Wikipedia – the user-contributed online encyclopedia, also known as “the people’s encyclopedia”. The word “wikis” is taken from the Hawaiian word for quick. Wikis are Web sites that allow users to directly edit any Web page on their own from their home computer.
- If you hate shelling out \$350 for Microsoft Office or \$600 for Adobe Photoshop OpenOffice.org and the Gimp are surprisingly high-quality free alternatives.
- Firefox is a free web browser that is very fast and filled with features that Microsoft’s Internet Explorer lacks.
- India is a country with virtually no natural resources that got very good at doing one thing- mining the brains of its won people by educating a relatively large slice of its elites in the sciences, engineering, and medicine. Before the mid-1990s, India could not provide good jobs for most of its talented engineers. So America got to be the second buyer of India’s brainpower. If you were a smart, educated Indian, the only way you could fulfill your potential was by leaving the country and going to America, where some 25,000 graduates of India’s top engineering schools have settled since 1953, greatly enriching America’s knowledge pool thanks to their education, which was subsidized by Indian taxpayers.
- India didn’t only benefit from the dot-com boom;’ it benefited even more from the dot-com bust! That is the real irony. The boom laid the cable that connected India to the world, and the bust made the cost of using it virtually free and also vastly increased the number of American companies that would want to use that fiber-optic cable to outsource knowledge work to India.
- Y2K should be called Indian Interdependence Day, because it was India’s ability to collaborate with Western companies, thanks to the interdependence created by fiber-optic networks, that really vaulted it forward and gave more Indians than ever some real freedom of choice in how, for whom and where they worked.
- Louis Pasteur: Fortune favors the prepared mind.
- China’s leaders are much more focused than many of their Western counterparts on how to train their young people in the math, science and computer skills required for success in the flat world, how to build a physical and telecom infrastructure that will allow Chinese people to plug and play faster and easier than others, and how to create incentives that will attract global investors. What h\China’s leaders really want is the next generation of underwear or airplane wings to be designed in China as well.
- While much attention is paid to American companies going offshore to China, little attention is paid to the huge amount of offshore investment coming into America every year, because foreigners want access to American markets and labor just like we want access to theirs.
- Now that China is in the WTO, a lot of traditional, slow, inefficient and protected sectors of the Chinese economy are being exposed to some withering global competition. A key reason why china’s leadership sought WTO membership was to use it as a club to force China’s bureaucracy to modernize and take down internal regulatory walls and pockets for arbitrary decision making.
- If Wal-Mart were an individual economy it would rank as China’s eighth-biggest trading partner, ahead of Russia, Australia and Canada.
- UPS actually repairs the computer in its own UPS-run workshop dedicated to computer and printer repairs at its Louisville hub.
- There are companies today that never touch their own products. UPS oversees the whole journey from factory to warehouse to customer to repair.
- UPS couldn’t help its customer P & H without looking deep inside its business and then into its suppliers’ businesses – what boxes and packing materials they were using. That is insourcing.

- UPS also employs its own meteorologists and strategic threat analysts to track which atmospheric or geopolitical thunderstorms it will have to work around on any given day.
- Google phone numbers and addresses will appear.
- Keyhole: a company specializing in Web-based software that allows people to view satellite images from around the globe.
- Many of the ten flatteners have been around for years. But for the full flattening effects to be felt, we needed not only the ten flatteners to converge but also something else. We needed the emergence of a large cadre of managers, innovators, business consultants, business schools, designers, IT specialists, CEOs, and workers to get comfortable with, and develop the sorts of horizontal collaboration and value-creation processes and habits that could take advantage of this new, flatter playing field. This naturally fostered and demanded new business practices, which were less about command and control and more about connecting and collaborating horizontally.
- It is this triple convergence – of new players, on a new playing field, developing new processes and habits for horizontal collaboration – that I believe is the most important force shaping global economics and politics in the early twenty-first century. Giving so many people access to all these tools of collaboration along with the ability through search engines and the Web to access billions of pages of raw information, ensures that the next generation of innovations will come from all over the Planet Flat.
- As the world has gone flat, Gates said, and so many people can no plug and play from anywhere, natural talent has started to trump geography.
- The dot-com bust actually drove globalization into hypermode by forcing companies to outsource and offshore more and more functions in order to save on scarce capital.
- Some of these inefficiencies are institutions, habits, cultures, and traditions that people cherish precisely because they reflect non-market values like social cohesion, religious faith, and national pride. If global markets and new communications technologies flatten those differences, we may lose something important.
- If I can buy five brilliant researchers in China and/or India for the price of one in Europe or America, I will buy the five; and if, in the long run, that means my own society loses part of its skills base, so be it. The only way to converge the interests of the two – the company and its country of origin – is to have a really smart population that can not only claim its slice of the bigger global pie but invent its own new slices as well.
- This is what happens when you move from a vertical (command and control) world to a much more horizontal (connect and collaborate) flat world. Your boss can do his job and your job. He can be secretary of state and his own secretary. He can give you instructions day or night. So you are never out. Therefore, you are always on.
- Do worry, though, about the 20 low-skilled Americans, who now have to compete more directly with the 920 low-skilled Chinese. Those American low-skilled workers doing fungible jobs – jobs that can easily be moved to China – will have a problem.
- What the manual laborer has to sell can be bought by only one factory or one consumer at a time, while what the software writer or drug inventor has to sell-idea-based products – can be sold to everyone in the global market at once. That is why America, as a whole will do fine in a flat world with free trade – provided it continues to churn out knowledge workers who are able to produce idea-based goods that can be sold globally and who are able to fill the knowledge jobs that will be created as we not only expand the global economy but connect all the knowledge pools in the world. There may be a limit to the number of good factory jobs in the world, but there is no limit to the number of idea-generated jobs in the world.

- In the sixty years since WWII, our standard of living has increased every decade, and our unemployment rate – even with all the outcry about outsourcing – stands at only a little above 5%, roughly half that of the most developed countries in Western Europe.
- See Heymath.com for math lessons.
- If you can't be special – and only a few people can be – you want to be specialized so that your work cannot be outsourced.
- Work that can be easily digitized and transferred to lower-wage locations is fungible.
- You can be anchored: waitress, chef, plumber, nurse, doctor, lawyers, etc. These jobs must be done in a specific location, involving face-to-face contact with customer, client, patient or audience.
- Being adaptable in a flat world, knowing how to “learn how to learn,” will be one of the most important assets any worker can have, because job churn will come faster, because innovation will happen faster.
- America has 4,000 colleges and universities. The rest of the world combined has 7,768 institutions of higher education. In the state of California alone, there are about 130 colleges and universities. There are only 14 countries in the world that have more than that number.
- There is a quiet crisis in US science and technology that we have to wake up to. The US is in a truly global environment, and those competitor countries are not only wide awake, they are running a marathon while we are running sprints. If left unchecked, this could challenge our preeminence and capacity to innovate.
- The perfect storm Shirley Ann Jackson is warning about could best be described as the confluence of three new gaps that have been slowly emerging to sap America's prowess in science, math and engineering. They are the numbers gap, the ambition gap and the education gap. In the Age of Flatism, these gaps are what most threaten our standard of living.
- The number of jobs requiring science and engineering skills in the US labor force is growing almost 5% per year. IN comparison, the rest of the labor force is growing at just over 1%.
- The brain gain started to go to brain drain around the year 2000. (Easier for foreign-born to work from home country.)
- Your average kid in the US is growing up in a wealthy country with many opportunities, and many are the kids of advantaged educated people and have a sense of entitlement. The hard reality for that kid is that fifteen years from now Wu is going to be his boss and Zhou is going to be the doctor in town.
- In China today, Bill Gates is Britney Spears. In America today, Britney Spears is Britney Spears – and that is our problem.
- It is not “follow the money”, it is “follow the brains”.
- You have teachers turning off kids because they were not trained. You know the old saw about the football coach teaching science – people who do not have the ability to make this accessible and gripping for kids.
- No institution will go through fundamental change unless it believes it is in deep trouble and needs to do something different to survive.
- The job of government and business is not to guarantee anyone a lifetime job. What government can and must guarantee people is the chance to make themselves more employable.
- If President Bush made energy independence his moon shot, in one fell swoop he would dry up revenue for terrorism, force Iran, Russia, Venezuela, and Saudi Arabia onto the path of reform – which they will never do with \$50-a-barrel oil – strengthen the dollar, and improve his own standing in Europe by doing something huge to reduce global warming.

- There is little premium for strength anymore. But there is an increasing premium for pattern recognition and complex problem solving, even down on the farm.
- College education produces more people with the skills to claim higher-value-added work in the new niches. It shrinks the pool of people able to do lower-skilled work. By shrinking the pool of lower-skilled workers, we help to stabilize their wages (provided we control immigration), because there are fewer people available to do those jobs.
- There comes a time when you've got to put away the Game Boys, turn off the television set, put away the iPod, and get your kids down to work. The sense that delayed gratification is a punishment worse than a spanking, the sense that our kids have to be swaddled in cotton wool so that nothing bad or disappointing or stressful ever happens to them at school is quite, simply, a growing cancer on American society. If we do not start to reverse it, our kids are going to be in for a huge and socially disruptive shock from the flat world.
- Education, whether it comes from parents or schools, has to be about more than just cognitive skills. It also has to include character building.
- My favorite teacher was the polar opposite of "cool", but we hung around her classroom like it was the malt shop and she was Wolfman Jack. It was because we enjoyed being harangued by her, disciplined by her and taught by her. She was a woman of clarity and principles in an age of uncertainty.
- Paul Romer: "A crisis is a terrible thing to waste."
- David Landes: *The Wealth and Poverty of Nations*: He argues that although climate, natural resources and geography all play roles in explaining why some countries are able to make the leap to industrialization and others are not, the key factor is actually a country's cultural endowments, particularly the degree to which it has internalized the values of hard work, thrift, honesty, patience and tenacity as well as the degree to which it is open to change, new technology and equality for women.
- Openness is critical because you start tending to respect people for their talent and abilities. You are dealing with people on the basis of talent – not race or ethnicity – and that changes, subtly, over time your whole view of human beings, if you are in this talent based and performance-based world rather than the background-based world. This helps explain why so many Muslim countries have been struggling as the world goes flat. For complicated cultural and historical reasons, many of them do not globalize well, although there are plenty of exceptions. The Muslim world today is dominated by a religious clergy that literally bans ijtihad, reinterpretation of the principles of Islam in light of current circumstances.
- A system that privileges the men from birth on simply because they are male and gives them power over their sisters and other female members of society, is bad for the men. It builds in them a sense of entitlement that discourages what it takes to improve, to advance and to achieve.
- Rule #1: When the world goes flat – and you are feeling flattened – reach for a shovel and dig inside yourself. Don't try to build walls.
- Rule #2: And the small shall act big...One way small companies flourish in the flat world is by learning to act really big. And the key to being small and acting big is being quick to take advantage of all the new tool for collaboration to reach farther, faster, wider, and deeper.
- Rule #3: And the big shall act small...One way that big companies learn to flourish in the flat world is by learning how to act really small by enabling their customers to act really big.
- Rule #4: The best companies are the best collaborators. In the flat world, more and more business will be done through collaborations within and between companies, for a very simple reason: The

next layers of value creation – whether in technology, marketing, biomedicine or manufacturing – are becoming so complex that no single firm or department is going to be able to master them alone.

- Rule #5: In a flat world, the best companies stay healthy by getting regular chest X-rays and then selling the results to their clients.
- Rule #6: The best companies outsource to win, not to shrink. They outsource to innovate faster and more cheaply in order to grow larger, gain market share, and hire more and different specialist – not to save money by firing more people.
- Rule #7: Outsourcing isn't just for Benedict Arnolds. It is also for idealists.
- As Indians on the outside of the gated communities looking in lose hope, “They become more religious, more tied to their caste/sub-caste, more radical in their thinking, more willing to snatch than create, and view dirty politics as being the only way to get mobility, since economic mobility is stalled.
- One of the unintended consequences of the flat world is that it puts different societies and cultures in much greater direct contact with one another. It connects people to people much faster than people and cultures can often prepare themselves.
- When Muslim radicals and fundamentalists look at the West, they see only the openness that makes us, in their eyes, decadent and promiscuous. They see only the openness that has produced Britney Spears and Janet Jackson. They do not see, and do not want to see, the openness – the freedom of thought and inquiry – that has made us powerful, the openness that has produced Bill Gates and Sally Ride.
- Terrorism is not spawned by the poverty of money. It is spawned by the poverty of dignity.
- Just as America's economic depression in the 120s and 1930s made many normal, intelligent, thinking Americans passive or active supporters of communism, so the humiliating economic, military and emotional depression of the Arab-Muslim world has made too many normal, intelligent and thinking Arabs and Muslims passive supporters of bin Ladenism.
- Since Iraq, Syria, south Lebanon, North Korea, Pakistan, Afghanistan and Iran are not part of any major global supply chains, all of them remain hot spots that could explode at any time and slow or reverse the flattening of the world.
- This Virtual Caliphate works just like the supply chains. Just as you take an item off the shelf in a discount store in Birmingham and another one is immediately made in Beijing, so the retailers of suicide deploy a human bomber in Baghdad and another one is immediately recruited and indoctrinated in Beirut. To the extent that this tactic spreads, it will require a major rethinking of the US military doctrine.
- There is one thing that has not and can never be commoditized and that is imagination.
- Does your society have more memories than dreams or more dreams than memories?
- This is the real reason, in my view, that so many people in the world dislike President Bush so intensely. They feel that he has taken away something very dear to them – an America that exports hope, not fear.
- It is no accident that Muslim countries make up 20% of the world's population but account for only 4% of world trade. When countries don't make things anyone else wants, they trade less, and less trade means less exchange of ideas and openness to the world. The most open, tolerant cities in the Muslim world today are its trading centers – Beirut, Istanbul, Jakarta, Dubai and Bahrain. People who are connected to the world and exposed to different cultures and perspectives are far more likely to develop the imagination of 11/9. People who are feeling disconnected, for whom personal freedom and fulfillment are a utopian fantasy, are more likely to develop the imagination of 9/11.

- When we talk about the poor, so often it is talk about getting them off the streets or getting them a job, so they don't starve. But we never talk about getting excellence for the poor. My thought was that we can deal with the issue of inequality, if they could break out of all the barriers imposed upon them. If one is successful, they will carry one thousand with them.
- Flattener #1: 11/9/89 (Berlin Wall)
- Flattener #2: 8/9/95 (Netscape went public)
- Flattener #3: Work Flow Software
- Flattener #4: Open-sourcing (Self-organizing collaborative communities)
- Flattener #5: Outsourcing (Send part of operations to foreign country)
- Flattener #6: Off-shoring (Move entire company to foreign country)
- Flattener #7: Supply-Chaining
- Flattener #8: In-sourcing (UPS-type operations – they run portions of your company)
- Flattener #9: In-forming (Google, Yahoo!, MSN Web Search)
- Flattener #10: The Steroids (Digital, Personal, and Virtual)
- Triple convergence: Global playing field; Business practices that are less about command and control and more about connecting and collaborating horizontally; Access by people all over world at low price)