

Cities

What is a city? Isn't it just a bunch of buildings that are close together?

No. Blow up or burn down a city and it springs right back where it was. Even Hiroshima couldn't be wiped out: it has a thriving population of 1,196,274. Chicago, Dresden, New Orleans, you name it – whether destroyed by fire in 1871, war in 1945, or flood in 2005, a city regrows itself like a patch of injured skin, almost exactly in the pattern that existed before the destruction.

The reason is that a city is not a collection of buildings (those are the symptom, not the cause) but a *network of human connections*. *Knowledge* connections. In the more or less urban neighborhood where I live, there is a shoe repairman named Mike. (See Exhibit 1.)

What makes him a good shoemaker? Not just his personal skill, but the network of connections he's developed: he knows where to buy leather, get the tools of his trade repaired, and acquire the paraphernalia that all trades have in common – a credit card acceptance system, a telephone line, and so forth. He can (and did) locate on a crowded block with lots of foot traffic. And, because he's in a city, he can comparison shop among competing suppliers without traveling immense distances, so the supplies are affordable.¹

Exhibit 1

The locus of a network of knowledge connections

¹ The Internet changes this dynamic a little, but personal, local connections are still important and build trust between parties to a transaction, a factor that has been widely shown to improve economic efficiency.



The other network Mike needs is on the demand side: customers and potential customers. *I* know where to find *him*. Enough of my neighbors need custom shoes or shoe repairs that my recommendation helps his business. We have all heard of the supply chain, which includes, say, the leather supplier's connections and, on down the line, the farmer who grows food for us all. But there's also a *demand chain*. I can afford Mike's services because I have my own customers, who have their own customers. A city, or even a village, is a trading economy-in-miniature that has arisen in search of, and in reaction to, low transportation and transaction costs.

Why we should care about cities

In a book on economic growth, why a chapter on cities? It's because that is where most growth takes place. As with Mike and his suppliers and customers, cities foster easy, cheap, productive connections as well as true innovations.

It's also where the brains are. I don't mean to disparage rural people in any way, but the gifted and ambitious have always gravitated to cities – if only because they need someone to talk to. That's where the other gifted and ambitious people are.

There is a long thread in economic and philosophical thinking that is appreciative of the immense contribution made by cities, running from Aristotle through Locke and Dr. Johnson (“when a man is tired of London he is tired of life”) to the grandiloquent Lewis Mumford; the beloved urbanist, Jane Jacobs; and that contemporary

champion of cities, Edward Glaeser.² This book is not the right place to lay out that whole intellectual history, or to counter the fear and loathing of cities by counter-Enlightenment figures such as Rousseau.

I'll just note that the words city, citizen, civic, civil, and civilization all come from the same Latin root, *civitas*, which means not the physical city (*urbs*)³ but something more like “the people acting together.” Cicero used the word to refer to Rome as an *idea*, and we should perhaps use the word *city* to help us think about our modern urban agglomerations in the same way.

Why do cities foster growth and innovation? Because these benefits require specialization and trade, which in turn rely on population density, diversity, complexity, and concentrations of intelligence. The physicist Geoffrey West, in a wide-ranging book of popular science called *Scale*, demonstrates that, as I said in my review of that book,

Each doubling [that is, 100% increase] in the size of a city results in a 115% increase in each of the key economic variables such as wages, patents and industries. Because commerce is transacted more rapidly, per capita GDP is higher in larger cities: Los Angeles is richer than Tulsa, which is richer than a typical rural town. The relationship is causal, not coincidental — the connections made possible by the larger city's size created the additional wealth.⁴

Creativity, hence progress, thus takes place when – to recycle Matt Ridley's memorable phrase, “ideas have sex.” For ideas to have sex, you need more than one idea. You need random – or intentional – encounters between people who *have*

² Mumford, Lewis. 1961. *The City in History: Its Origins, Its Transformations, and Its Prospects*. New York: Harcourt, Brace & World. Jacobs, Jane. 1961. *The Death and Life of Great American Cities*. 50th Anniversary Edition, 2011, New York: Modern Library. Glaeser, Edward. 2011. *Triumph of the City: How Our Greatest Invention Makes Us Richer, Smarter, Greener, Healthier, and Happier*. New York: PenguinRandomHouse.

Jacobs was a combative and effective advocate of a philosophy of urbanism that marries preservation and progress. She appreciated market outcomes and cities formed through organic growth. Those achievements and views are what is beloved; as a person, she may be best remembered for New York housing administrator Robert Starr's wisecrack, ““What a dear, sweet character she isn't.”

³ Pronounced, oddly, “erps”; *civitas* is KEE-wi-tahs, with the Latin hard *c*, not the English soft *c* or the Italian *ch*. Latin *v* is usually pronounced like the English *w*.

⁴ West, Geoffrey. 2017. *Scale: The Universal Laws of Life and Death in Organisms, Cities and Companies*. New York: Penguin. The quote is from Siegel, Laurence B. 2017. “The Rules of Growth: Organisms, Cities and Companies.” *Advisor Perspectives* (October 30), <https://www.advisorperspectives.com/articles/2017/10/30/the-rules-of-growth-organisms-cities-and-companies>

ideas, not just “great” ideas, but little ones. Little ideas improve processes in manufacturing, or artisanship, or logistics, or sales, or customer service. Such serendipitous encounters are more likely to take place in a coffeehouse, pub, corporate office, bank, government agency, university, or city park than on an endless dusty road between two subsistence farms.

Momentum cities

Why are cities located where they are, and why do they spring back in the same place when destroyed? As schoolchildren many of us learned that Chicago became a major city because it was the lowest point of portage between the Great Lakes waterway and the rivers that flow into the Mississippi; it’s an easy walk from one watershed to the other. It might not be that easy if you’re carrying a canoe over your head, but it’s still doable. (Hence the names Portage Park, a neighborhood of Chicago; and nearby Portage, Indiana.)

But we no longer travel by canoe. Even if you take into account big ships, a point of easy trans-shipment between the Great Lakes and the Mississippi is not as important as it used to be. But Chicago then evolved into a railroad capital and now one of the world’s great airline hubs. It is still a focal point for transportation. Why? Because it *was* the focal point for transportation a long time ago. There’s a momentum effect.

Seattle, likewise, was the Boeing city until it became the Microsoft city and then the Amazon city. All these companies use a lot of engineers. *Cities reinvent themselves, then, along the lines that caused them to be created in the first place*, not exactly (because times and needs change) but using the same general skill sets, labor types, and managerial talents.⁵

The rule is not foolproof. Sometimes momentum doesn’t work. Cleveland was the technological capital of the United States in 1890, Detroit in 1925. Both cities are suffering. I blame bad policies, not the failure of the momentum model, because Pittsburgh, which could have suffered the same fate, is thriving. But there is no guarantee that a great city will remain great – it’s just a tendency, not an ironclad law.

All roads lead to – and from – Rome

Even Rome, the grandest of all ancient cities, fell in population from 1 million at its peak to fewer than 20,000 in the early Middle Ages. It could have been ruined as

⁵ Cities can and do change their character. Before Seattle was a city of engineers, it was a shipping, fishing, and forestry capital. But that was a long time ago, and Seattle was much smaller then (it was the 63rd largest metropolitan area in 1900 and is now 14th).

utterly as the Cahokia Mounds in Illinois.⁶ But there was something about the location of Rome, people's knowledge of what Rome represented and what might be found there, and (as we'll soon see) the legacy of Roman engineering that caused it to be resettled once its darkest days were over. Today it is a metropolis four times larger than in Caesar's time.⁷

One factor that led to Rome's revival, and Europe's emergence as the world center of civilization in the early modern era, is the network of roads that the Romans built. (They were built to last. Some are still in pretty good shape; see [Exhibit 2](#)). The roads formed a dense network over a vast area that ranged from England to Portugal to Romania to Libya – “massive infrastructure projects even by modern standards,” writes the *Washington Post* reporter Christopher Ingraham. While the roads were built mostly for military purposes, they had the side effect of making trade much easier and cheaper.

Exhibit 2

Roman road in Andalucia, Spain, built about 200 BC, 1450 miles from Rome



Source: http://www.visit-andalucia.com/one_top_post.php?id=170

⁶ The Cahokia Mounds are a pre-Columbian Native American ruin in Illinois that may have housed 15,000 to 30,000 people at its peak around 1275. No living Native American residents remain. Hodges, Glenn. 2011. “America's Forgotten City,” *National Geographic* (January), <https://www.nationalgeographic.com/magazine/2011/01/americas-forgotten-city/>

⁷ That is still not a high growth rate: one million to four million in 2000 years is 0.07% per year. Relative to the world's overall population at a given time, ancient Rome was probably the largest city that has ever existed.

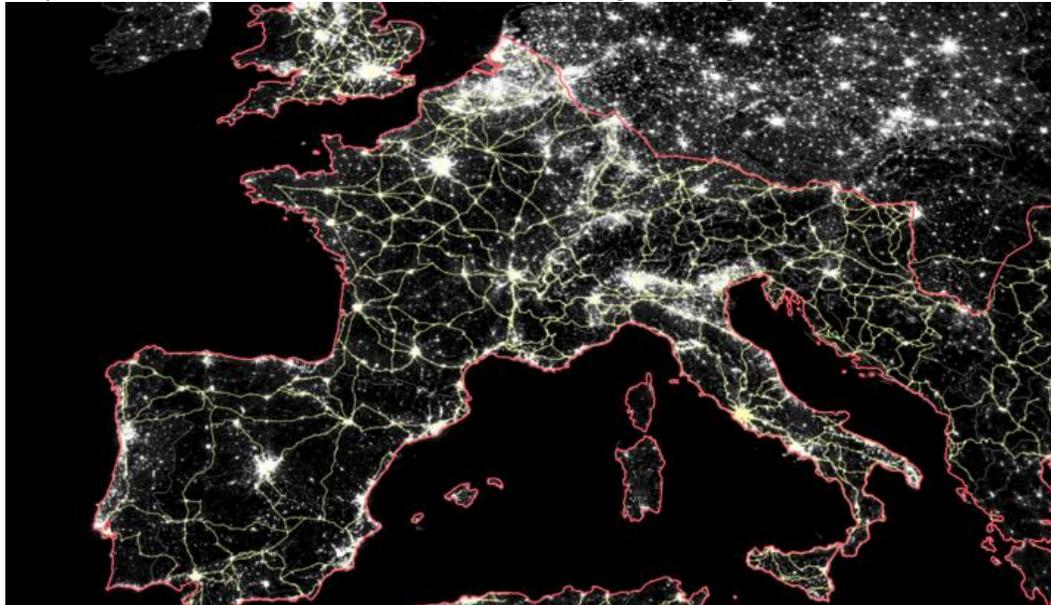
A group led by Carl-Johan Dalgaard, an economist at the University of Copenhagen, studied the links between the Roman routes and current patterns of prosperity. Reporting on Dalgaard's study, Ingraham writes,

Prosperity begets prosperity: On a global level, economists and historians have shown that places that prospered 100, 500, even 1,000 years ago tend to be more economically developed today.

The evidence is in the remarkable Exhibit 3, an overlay of modern nighttime lighting patterns in Europe over a map of the Roman roads. The lighting pattern is a proxy for the current intensity of economic activity in a location.

Exhibit 3

Map of Roman roads overlaid with modern urban lights at night



Source: Ingraham (2018).⁸

The correspondence between Roman road intersections and modern, brightly-lit cities is uncanny. It is especially visible in France, where “you can clearly see the paths of ancient roadways connecting not just major modern cities, like Paris and Lyon, but also many minor ones, too. Across inland France, nearly every junction of ancient roads is marked by a splash of light in the modern era.”⁹

⁸ Ingraham, Christopher. 2018. “How 2,000-year-old roads predict modern-day prosperity.” *Wonkblog*, Washington Post (August 7), <https://www.washingtonpost.com/amphtml/business/2018/08/06/how-year-old-roads-predict-modern-day-prosperity/>. The picture caption says: Washington Post illustration uses data from NOAA Earth Observatory, Natural Earth and Digital Atlas of Roman and Medieval Civilization.

⁹ Ingraham, *op. cit.* A close-up of the French part of the map is in the *Washington Post* article.

The researchers' conclusion is that large infrastructure investments can have payoffs far beyond the short term. They compared Roman roads in Europe with those in North Africa and the Near East. The European roads were heavily used for trade by wheeled ox-cart long after the Roman empire had fallen; on the roads in North Africa and the Near East, camels had become the main mode of transportation. As the Middle Ages proceeded, Europe thrived relative to the North African and Near Eastern areas. Because good roads are much more important for transportation by wheeled ox-cart than by camel, the authors concluded that the roads were an important *causal* factor for subsequent prosperity in Europe relative to the other areas.

A magnet for the ambitious, an escape for the oppressed

São Paulo (Exhibit 4) is nobody's idea of a beautiful city. The gem of Brazil, Rio de Janeiro, is a couple hundred miles away and far more fetching: it looks like a fantasyland if you cast your eye in the right direction. So why do 10 million more people live in São Paulo than in Rio? Why has São Paulo been richer since the 1940s, "the locomotive 'pulling the rest of Brazil' and...the hub of an immense megametropolis"?¹⁰

Exhibit 4

São Paulo: Eyesore or magnet?



Source: http://www.aboutbrasil.com/modules/brazil-brasil/foto_of_the_day_brazil.php

¹⁰ Leite, Aureliano, C. W. Minkel, and R. M. Schneider. Undated. "São Paulo." *Encyclopedia Britannica*, accessed at <https://www.britannica.com/place/Sao-Paulo-Brazil> on August 24, 2018.

It's because Rio is for romantics and nostalgics, and São Paulo is for business. Once a city establishes itself as a magnet for the hardworking and the ambitious, it tends to stay that way and become more so, leaving other locales behind. Momentum. Matt Ridley writes:

Trade draws people to cities and swells the slums. Is this not a bad thing? No. Satanic the mills of the industrial revolution may have looked to romantic poets, but they were also beacons of opportunity to young people facing the squalor and crowding of a country cottage on too small a plot of land. As Ford Madox Ford celebrated in his Edwardian novel *The Soul of London*, the city may have seemed dirty and squalid to the rich but it was seen by the working class as a place of liberation and enterprise.

That was London in 1905; how about Mumbai in 2018? Isn't Mumbai a much tougher environment? Ridley explains:

Ask a modern Indian woman why she wants to leave her rural village for a Mumbai slum. Because the city, for all its dangers and squalor, represents opportunity, the chance to escape from the village of her birth, where there is drudgery without wages, suffocating family control and where work happens in the merciless heat of the sun or the drenching downpour of the monsoon.

'[F]or the young person in an Indian village, the call of Mumbai isn't just about money. It's also about freedom,' says Suketa Mehta.... Rural self-sufficiency is a romantic mirage. Urban opportunity is what people want.

Noting that, for the first time in the history of the world, more than half of people now live in cities – a number that some say is an underestimate – Ridley concludes, "That is not a bad thing. It is a measure of economic progress that more than half the population can leave subsistence and seek the possibilities of a *life based on the collective brain* instead. Two-thirds of economic growth happens in cities."¹¹

Cities and loneliness

Some even claim that urbanization in China has cut the suicide rate by alleviating loneliness. In a Cato Institute online publication, Chelsea Follett writes:

¹¹ Page 125 of my PDF of *The Rational Optimist*. The datum regarding more than half of the world's population living in cities is at <https://news.un.org/en/story/2014/07/472752-more-half-worlds-population-now-living-urban-areas-un-survey-finds>. The percentage in 2014 was 54% and is higher now.

As more Chinese have left farms in the countryside to work in factory cities, the suicide rate has plummeted. This may be shocking to many people in rich countries. That is because many people who enjoy post-industrial prosperity worry about “sweatshop” conditions and exploitation in factories [and] may also have an idealised opinion of rural peasant life.

In reality, factory work is typically an improvement compared to poverty in the countryside. Factory conditions can be harsh and no one is claiming they should not improve. But far worse back-breaking labour and grinding poverty often define rural existence. The option of migrating to a city to take up factory work...[offering] higher wages and a better standard of living...can be a lifeline to those contemplating suicide.

Echoing Ridley, Follett notes that “it also can mean freedom from the more restrictive social norms of the countryside – particularly for women...since gender roles are less limiting in cities...” She concludes, “Globalisation has, quite literally, saved many of their lives.”¹²

Squatter cities: The creativity of the desperate

Pursuing a similar theme, Stewart Brand, the pioneering environmentalist and author whose work we’ll study closely in a later chapter, also waxes enthusiastic about that least aesthetically appealing kind of urban settlement, the squatter city. A *Wired* magazine interviewer writes:

Some people see a squatter city in Nigeria or India and the desperation overwhelms them: rickety shelters, little kids working or begging, filthy water and air. Stewart Brand sees the same places and he's encouraged.... Brand...makes a counterintuitive case that the booming slums and squatter cities in and around Mumbai, Nairobi, and Rio de Janeiro [see Exhibit 5] are net positives for poor people and the environment. *Wired* asked him to elaborate.

Exhibit 5
Inside the Rocinha favela in Rio de Janeiro

¹² <https://humanprogress.org/article.php?p=1291>. humanprogress.org is a project of the Cato Institute.



Source: <https://www.backpackertravel.org/destinations/city-within-city-visiting-rios-favelas/>

Stewart Brand: That's where vast numbers of humans—slum dwellers—are doing urban stuff in new and amazing ways... People are trying desperately to get out of poverty, so there's a lot of creativity; they collaborate in ways that we've completely forgotten how to do in regular cities...

People come in from the countryside, enter the rickshaw economy, and work for almost nothing. But after a while, they move uptown, into the formal economy. The United Nations did extensive field research and flipped from seeing squatter cities as the world's great problem to realizing these slums are actually the world's great solution to poverty.

Brand looks at squatter cities, like almost everything else, from an environmental perspective. *Wired* asks him how they could possibly be good for the environment:

Brand: Cities draw people away from subsistence farming, which is ecologically devastating, and they defuse the population bomb. In the villages, women spend their time doing agricultural stuff, for no pay, or having lots and lots of kids. When women move to town, it's better to have fewer kids, bear down, and get them some education, some economic opportunity. Women become important, powerful creatures in the slums.

Finally, the *Wired* interviewer asks how governments can help nurture these positives:

Brand: The...main thing is not to bulldoze the slums. Treat the people as pioneers. Get them some grid electricity, water, sanitation, crime prevention. All that makes a huge difference.¹³

Why cities are green

Cities don't look particularly green. It's possible to stand in the heart of some cities and not see a tree or a blade of grass. Yet economists and many environmentalists agree that the division of population into a heartland of specialized producers and a hinterland with a small number of very efficient food growers is the greenest – that is, the most ecologically efficient – system ever devised.

Actually, it was not devised. It just happened. Producing one thing extremely well and consuming a lot of different things from all over is just what people want to do, when they have the choice. The result is city living for most, with farming becoming its own technologically advanced specialty.

The least efficient system, of course, is for everyone to do everything for themselves. That's how primitive man lived (very poorly). Self-sufficiency is still a recipe for poverty: Matt Ridley has noted that all Dark Ages were retreats from specialization into self-sufficiency. If you have to do everything yourself, you're not going to be very good at it so a population of self-sufficient farmers will mostly just grow enough food to survive and never produce much else.

If something like 11 billion people are going to live on the surface of the earth, it's much better to pack most of them into small areas. Such a design allows for two kinds of benefits: (1) people can interact with each other and create things, and (2) it leaves more space for nature. We need a lot of land for food production, and a lot more for forests, which suck out the carbon emitted by the burning of fossil fuels: that's called having a *negative carbon footprint*, and it's a good thing.

Deforestation....or reforestation?

Thus the ongoing concern about deforestation. This destruction continues to take place in countries where the still-growing need for agricultural land is resulting in forest cutting.

But the United States has experienced dramatic *reforestation*, especially in the Northeast, one of the first parts of the country to be settled. The reforestation began when the opening of the Erie Canal, in the 1820s, made it practical to farm in the rich lands of Ohio and beyond. This caused previously valuable Northeastern farmland to become marginal. Thus much of the Northeastern land reverted to

¹³ *Wired* (interviewer unidentified). 2009. "Stewart Brand: Save the Slums" (September 21). <https://www.wired.com/2009/09/ff-smartlist-brand/>

forest. As the Case Western Reserve University law professor and market environmentalist Jonathan H. Adler noted,

[Since about 1950], timberland east of the Mississippi has expanded by 3.8 million acres, in addition to the nearly three million acres in the eastern United States that have been declared wilderness in the past two decades. By 1980, New England contained more forested acres than in the mid-19th century; Vermont is now twice as forested as then. Fifty-nine percent of the northeastern United States is covered by forest.¹⁴

This is not simply a matter of land returning to its natural state. Forests are a positive good, for which people are willing to pay if they can live close enough to one to visit it.

Thus the return of the forests to the Northeast and elsewhere are an outcome of changes in economic demand. The use of land for forest, at least in that part of the country, has become more valuable than use of the same land for agriculture or urban development. Ellen Stroud, a Bryn Mawr College environmentalist and urbanologist, has written, “It is no coincidence that the most heavily urbanized part of the country has experienced the most dramatic return of woodlands. . . . *The desires and physical needs of city people encouraged and required the return of the forest.*”^{15,16}

¹⁴ Adler, Jonathan H. 1993. “Poplar Front: The Rebirth of America’s Forests.” *Policy Review* (Spring), pp. 84–87.

¹⁵ Stroud, Ellen. 2012. *Nature Next Door: Cities and the Rebirth of Northeastern Forests*. Seattle: University of Washington Press. My italics.

¹⁶ **SIDEBAR: England’s green and pleasant land.** England, not the whole of the British Isles but just England, is one of the most crowded countries in the world, 55,619,400 people in 50,301 square miles or about one-third the density of Bangladesh. It nevertheless has a superabundance of green space and a lot of poetry devoted to that space. Blake: “England’s green and pleasant land.” Housman: *A Shropshire Lad*. Shakespeare: “this sceptred isle.../This other Eden, demi-paradise.../This blessed plot, this earth, this realm, this England.” How on earth did the English do it?

The countryside is green *because* the cities are densely packed (**Exhibit x**). The wonderful livability of crowded England is also partly due to government protection of open spaces, and partly to its natural endowment. But it’s mostly traceable to simple economics – when England was being built, transport costs were high: dragging around all their possessions and merchandise by horse or perhaps floating them up a canal, villagers needed to live near other villagers and city dwellers near other city dwellers. England is also green because of the selfish motives of kings and landowners who wanted to preserve its natural beauty for themselves – an act with highly beneficial unintended consequences.

The United States, developing later along different principles, reflects cheap transportation: fast trains and an early commitment to highway building. So it is not as ecologically efficient. Nevertheless, U.S. cities and their suburbs take up only 4% of the U.S.’s vast land area, up from 3% a generation ago.

Conclusion

Cities are the very soul of economic development, of betterment, of the Great Enrichment. They allow people to connect in ways that produce new ideas, new products, new books and music, new cures for diseases – in short, better modes of living.

There is a downside to cities. Disease spreads more quickly in close quarters. Families may not look after their more vulnerable members as closely in an impersonal city as in a smaller community. But the market has spoken – people have voted with their feet – and a vast number of them would rather take their chances in cities than settle for stasis in their places of origin. Cities are the future.

One might guess that the Internet and cheap, safe air travel will make it less important for talented people to locate physically close to one another. We've gotten a peek at that trend with telecommuting, distributed businesses, and work from home. But, each year, the biggest cities get bigger and more important, and millions migrate to them from rural areas in search of the opportunity and stimulation they so desperately crave. The need for proximity and interaction seems to be much greater than the need for privacy and simplicity.

How the world will balance urbanism and nature in the future remains to be seen, but if rapidly developing east Asia is any indication, the future will be intensely urban. And I'll argue that that result is efficient and helps nature, rather than hurting it as some might surmise.

Exhibit x: Bath, England: Crowded city, unspoiled countryside



Geologists may have recently decided to call the current era the Anthropocene, but it's really the age of cities, of the interconnected mind.