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The Paradox of Urban Diversity and Cohesion

A living city is incomparably more complex and dynamic than the most intricately designed human construct, even highly sophisticated computers and software. It is one of most complex systems of any kind. In part that is because a real city doesn't have a purpose of its own but is rather a galaxy of countless perpetually moving subsystems in which, unlike the stars of the Milky Way, each daily pursues dozens of unpredictably different purposes, with different time horizons, constantly adjusting to unforeseen changes. It is not possible to fully understand how such a system works in the same way that it might be possible to lay out in detail how a computer works, or the Milky Way. In fact, if it could fully be explained that way, it wouldn't be a living city; more man-made machine than complex social order. Again, a city is not a man-made thing.

But it is possible to identify factors that help or hinder a city's economic development. That is what Jane Jacobs does, primarily in *The Death and Life of Great American Cities*, and is the subject of this chapter.

This chapter draws in part from Ikeda (2020).

For Jacobs, a living city achieves greatness (e.g., Tokyo, London, New York, Paris) because its inhabitants, other things equal, are better able than smaller settlements to harness an enormous range of diverse elements. But what does Jacobs mean by “diversity,” how does a city generate that diversity, and why is diversity so essential, anyway? Indeed, since homophily—like attracting like—is such a common and strong social urge, it is easy to imagine how diversity instead could be an obstacle to social cooperation. So what transforms a “bug” into a “feature” of a city, what enables complex social cooperation to emerge from the actions of ordinary people and be maintained among widely heterogeneous elements? In a world of scarce resources and imperfect knowledge, why should socially distant and self-interested strangers choose to live and work among one another?

For Jacobs the answers to these questions lie, at least in *Death and Life*, in the social networks people form when the design of public space is done right. While I have noted that in her later writings Jacobs recognizes market prices as important coordinating devices, in that 1961 book, Jacobs stresses the role of social networks and social capital as the principal cohesive forces binding all that diversity together. In Sect. 4, I will show that market-process analysis, with its emphasis on entrepreneurship and the price system, neatly complements Jacobs’s focus on social networks. Together they act as dual forces for social cooperation and cohesion among large numbers of people.

1 Microfoundations of Jacobsian Economics

Jacobs notes that no city can flourish unless its residents feel sufficiently safe and secure in its public spaces. The problem is how this is possible among the myriad strangers who populate a great city without resorting to command and control. For Jacobs, the solution entails encouraging people in large numbers to use public spaces consistently throughout the day and night to foster informal contact. I interpret her solution as finding a way to encourage us to identify and utilize valuable complementarities among the strangers we encounter. Because order in a living city is

largely the unplanned outcome of individual choices rather than one of imposing a preconceived design (Bertaud, 2018), grasping how a city works (short of complete understanding, of course) means approaching it from the bottom up, beginning with individual perceptions and actions.

1.1 What Does “Diversity” Mean?

I first need to clarify what Jacobs means by diversity. In *Death and Life*, diversity refers primarily to the ways urbanites use land, that is, land-use diversity. But it can refer to people, places, or things and I will be using diversity in all three senses.

The diversity of *things* refers to physical objects. Now, although the things themselves are tangible, the uses to which we put them are a matter of subjective preference. That means we can use the same physical object, such as a stone, as part of a wall or as a paperweight; and we can use objects that differ physically, such as a stone and a book, for the same purpose, for example, to hold open a door. It all depends on our ingenuity and particular circumstances we find ourselves in. Similarly, with respect to *places*, diversity refers to the different ways we perceive and use space; uses of land such as residential, commercial, sacred, and so on. Again, although a place may be tangible, we might use it for different purposes depending on our subjective goals—a high-school gymnasium at different times may be a venue for basketball or a town meeting—or different spaces may be used for the same purpose, so a restaurant or a church could serve as a wedding venue. Hence, the diversities of things and places in the sense used here primarily depend on our perceptions and preferences. Moreover, these also change over time and different people will perceive and prefer different things, contingent on knowledge, experience, and expectations.

With respect to *people*, then, diversity refers to differences in knowledge and beliefs, skills, and tastes. There are of course other significant ways people differ, but our focus will be on these. While such differences may be subjective and intangible, they are still very real. Differences in personal experience, cultural values, education, etc. can create “social

distance”¹ among us, and so the challenge is to somehow transform our diversities into complementarities, potential conflict into social cohesion.

Now, Jacobs observes that in a successful city, “a person must feel personally safe and secure on the street” among strangers (Jacobs, 1961: 30). To achieve this, a city needs to rely on a self-regulating harmony of differences more than on formal policing, otherwise the budgetary costs would be far too high or, perhaps more importantly, a great deal of formal policing might itself discourage vital informal contact. Safety and security then depend mostly on unofficial monitoring by ordinary people who have different reasons for being in a public space, which is ordinarily determined by the various land-uses they find in that space.

1.2 The Generators of Land-Use Diversity

Jacobs arrives at her “generators of diversity” through keen observation, extensive scholarship, and pure genius (Szurmak & Desrochers, 2017). She concludes that to successfully generate land-use diversity, all four of the following conditions must hold and, if they do, they will interact in a logical and complex process. To be clear, for Jacobs, these should not be treated as unquestionable axioms, but should be modified or jettisoned when contradicted by the circumstances of time and place.

1.2.1 Two or More Primary Uses

Her starting point is the insight that it is vital to attract people into a neighborhood at different times of the day and days of the week.

The district, and indeed as many of its internal parts as possible, must serve more than one primary function; preferably more than two. These must insure the presence of people who go outdoors on different schedules and are in the place for different purposes, but who are able to use many facilities in common. (Jacobs, 1961: 152)

¹I define “socially distant” more thoroughly in Chap. 5.

Jacobs argues that to encourage large numbers of people to use public spaces continuously during different times of the day, there needs to be a variety of things there to attract them. This is what sets in motion Jacobs's oft-cited "sidewalk ballet" (Jacobs, 1961: 50). Once there, the tendency for people to attract more people can take hold. Jacobs calls these attractors "primary uses." A primary use then is something that gives us a reason, an incentive, to enter a neighborhood.

A residence is one common primary use. Other primary uses of urban land include, for example, an office building, a high school, a courthouse, a shopping center, a multiplex movie theater, a bus stop, a bar, a museum, or a hospital. We can probably think of many others, but keep in mind that a primary use is what brings outsiders into a neighborhood. Each primary use attracts a different group of users: residents between 6 pm and 6 am, workers between 9 am and 5 pm, theater-goers evenings and weekends, and so on. Some spaces may serve multiple primary uses, such as a good bookstore that sponsors evening readings or a civic plaza that accommodates a farmers' market on weekends when it would otherwise be empty. (I belonged to a taiko-drum ensemble that rehearses in a martial arts dojo.)

To encourage us to spend time in a public space throughout the day and week, there needs to be more than one primary use. A single use, particularly a massive one such as a sports arena or a residential complex, by dominating so much public space often precludes more than one primary use in a neighborhood. Per the arguments laid out in Chap. 3, the very large scale crowds out other potential uses. Sometimes this is unavoidable if indeed the inhabitants of a locality demand such a single massive use—or what Jacobs terms a "border vacuum" (Jacobs, 1961: 257–69)—but when the facility is not in use it tends to repel rather than attract: If people attract people, then the absence of people does the opposite. With multiple primary uses in a neighborhood—for example, a combination of residences, workplaces, entertainment venues—it is more likely that we will use the streets, sidewalks, and plazas to go about our business at different times, perhaps looking for interesting things to do, including looking at and casually keeping an eye on one another.

This influx and outflux of strangers radically differentiates a neighborhood of, say, 20,000 residents in a city of one million from a small town

of 20,000. A lively neighborhood in a city brings in many more people, most of whom are strangers to one another, from the outside during the day, than is the case in a town. As journalist and author Joel Garreau (1991: 7) remarks, one sign of an area's success is if its population increases between 9 am and 5 pm. Moreover, pound-for-pound, the people residing in and attracted to a big-city neighborhood will likely seem more unusual to us by almost any measure than what we would find in a small town, because the variance of their behavior, background, and beliefs will be significantly higher. Indeed, it is precisely in the context of how a great city both attracts and tolerates extremes in human diversity that Jacobs famously writes: "Cities have the capability of providing something for everybody, only because, and only when, they are created by everybody" (Jacobs, 1961: 238).

But there are also land-uses that don't necessarily bring strangers into a neighborhood but cater to those already there because of a primary use. Jacobs calls this "secondary diversity." Examples might include a fast-food restaurant, a laundromat, a grocery store, an elementary school, or a pharmacy. Occasionally, a use that would ordinarily be secondary, a local restaurant perhaps, becomes primary if it gains city-wide popularity. Also, over time, land currently serving as a secondary use, for example a local pharmacy, might be refitted, if zoning permits it, into a primary use such as a specialty clothing shop, or if its hours of operation expands from regular business hours to 24/7 and so attract people when other shops are closed. The reverse happens when primary uses disappear, reducing local land-use diversity and making the neighborhood less attractive.

One of the catchphrases of contemporary urban planning and development is "mixed use." Developers often characterize a new project as "mixed use" when all they mean is that in addition to housing, their plans might include retail space for a grocery store and a fast-food shop. These other uses are merely secondary that likely will not themselves bring in people from outside the neighborhood or district. As a necessary factor for generating diversity, Jacobs was therefore careful to specify "mixed *primary* uses."

1.2.2 Population Density

Jacobs writes about the necessity of having a dense concentration of people in a given location in order to supply, as it were, the raw material for eyes on the street.

The district must have a sufficiently dense concentration of people, for whatever purpose they may be there. This includes people there because of residence. (Jacobs, 1961: 200)

Without enough people to fill public spaces as they travel to work, shop, play, and so on, the informal social institutions that promote public safety and security, and the economic and cultural creativity that build upon them, will not spontaneously emerge.

Note that Jacobs lists this as only one of the four generators of diversity. (In fact, she lists it last among the four.) This is worth noting because much of the recent conversation in the urban-planning community has been about the virtues of population density,² as if density were an end in itself; or how once population density has reached some critical level, perhaps coaxed along by imposing green belts, the vitality and benefits of urbanism will then somehow spring up, without paying enough attention to other, equally important, factors. (This is somewhat ironic given how anti-density most urban planners were in the early twentieth century (Bruegmann, 2006) and in some cities today.) But Jacobs's concern with population density derives from her focus on land-use diversity. Population density is a virtue here to the extent that it interacts with the other three elements as a co-generator of land-use diversity. An overcrowded prison in California or the Yankee Stadium during a home game both have high population densities, but without the diversity of use that emerges from all four of the generators, neither would hardly be considered a living city, despite the large numbers of people involved.

Note also that Jacobs is careful to distinguish density from overcrowding. "Density" refers to the number of people or dwelling units per acre

²Although there is much support among some urban planners to limit densities in cities in downtown areas and in suburbs where land owners express concern about overcrowding and a decrease in real-estate values. Chapter 8 looks more closely at this issue.

or square kilometer; “overcrowding” refers to the number of people in a single dwelling unit (Jacobs, 1961: 205).³ You can have a very high population density—the extremely wealthy Upper East Side of Manhattan has one of the highest population densities in the City of New York—without overcrowding. That is because the higher number of dwelling units per acre more than compensates for the fewer number of people residing in each unit. (Incidentally, the increase in dwellings may not be enough to offset the reduction in people per dwelling, which explains why as people grow wealthier and reside in larger units population density tends to fall even if dwellings per acre rises.) Generally speaking, overcrowding is undesirable, especially when combined with poverty, as it usually is. And it is also possible for density to be too high, especially when the physical infrastructure in a neighborhood—the sewers, streets, power grid, etc.—cannot adequately accommodate those attracted to it, a problem that typically falls to city planners to address, with uneven success (Bertaud, 2018: xiii). Another consequence of very high densities is the boring visual homogeneity that usually results because such high densities tend to require cost cutting, standardized designs (Jacobs, 1961: 213), think Le Corbusier’s “towers in a park” (which is a topic in Chap. 7).

Finally, it is no mystery why population density and congestion in public spaces usually go hand in hand. Put a lot of people into a relatively small area and there are bound to be bottlenecks. High congestion, meaning a great many people using limited public space, can sometimes make life miserable with the crowds, noise, smells, and overall slowness and jumble. However, congestion is often the setting for opportunity because congestion in a great city (but not prisons or Yankee Stadium) is closely associated with a variety of people and uses of space. When the architect Rem Koolhaas speaks of the “culture of congestion” he means it mostly in a good way; that a dynamic culture arises from congestion (Koolhaas, 1994: 10).

³It is even more complicated than this since we can break down the concept of density further. While it isn’t necessary to do this here, urbanists should at least be aware of the various components of “density,” and there is no better expositor of this than Shlomo Angel (2020).

1.2.3 Short Blocks

Most blocks must be short; that is, streets and opportunities to turn corners must be frequent. (Jacobs, 1961: 178)

Always look to invest in properties on a corner! That is what my business-savvy father used to tell me, which I suppose is probably common sense in the real-estate industry. From a commercial point of view, a corner has the advantage of more street frontage than a midblock unit, which means more passersby per hour. According to Joel Garreau (1991: 465), a rule of thumb for commercial success—and I believe this applies to shops in a mall as well as on outdoor streets—is to have about 17 persons per minute (1000 per hour) pass by your store during business hours. Locating on a corner roughly doubles the chances of meeting that minimum and increases your visibility. For a given area, “short blocks” translates into more intersecting streets and therefore “more corners.” And while increasing the supply of corner properties would, other things equal, lower the real-estate value of corner properties, other things will not be equal if enough of us are thereby encouraged to use public spaces and so help to make it flourish.

Looking at it more from the “demand” side, Jacobs prescribes “short blocks” for a different reason; namely, short blocks promote walkability. Why? After all, 100 yards is 100 yards whether there is one street intersecting a block or none; in fact, it may increase the distance between destinations if you factor in the width of intervening streets. It is because, up to a point, breaking up a long block by one or even two streets tends to draw pedestrians (though perhaps not car-drivers or bicycle-riders) onward a little farther than the 600 feet or so that sociologist William H. Whyte (as interpreted by Garreau (1991: 464)) estimates the average person is willing to walk to a destination before getting into a car. For that reason, modern shopping malls no longer feature very long, straight, unbroken walkways. As Garreau (1991: 464–6) points out, it is a mistake for a mall-builder to let shoppers see exactly how far it is to the end of a mall, for fear they may turn around (and go back to their cars) before going all the way there. Some of the earliest malls did make that mistake, but today indoor and outdoor malls are constructed so lines of sight are

limited via curves or other obstructions, stoking a person's curiosity about what may be "just around the corner." The same principle applies to a city street: short blocks lend intricacy and visual interest to public spaces. Shorter blocks mean more intersections and, as a result, more ways to get from one point to another.⁴

This is related to the concept of "granularity," in which a compound is finer-grained the more distinct elements it contains. Think about various grades of concrete or sandpaper. Applying the concept of granularity to a city street of a given length, such as Whyte's standard of 600 feet, the more land-use in that stretch the more granular it is (Price, 2015). If the entire 600 feet is one unbroken block, then it is more likely that fewer uses will occupy it than if it were divided into shorter blocks (or if a rule prohibited frontages over a relatively small size) because it is then more convenient for large investors to create buildings with extensive frontage. In the limit, a single, massive use might occupy the entire 600-foot stretch and profoundly reduce granularity, which even the addition of so-called "mixed uses" or faux variation to the frontage won't compensate for. This would be less likely if instead the street were divided into two 300-foot blocks or especially three 200-foot blocks. Adding more divisions adds more corners with one street doubling the number of corners and two streets tripling them.

Of course, this doesn't account for street widths. Assuming a standard width of 60 feet, then adding one or two streets will create blocks of 270 feet or 160 feet, respectively (Bertaud, 2018). One of the advantages of a street grid such as the one that crisscrosses Manhattan above 14th Street is that it makes plots of land more uniform and therefore easier to sell and develop (Koeppel, 2015). On the other hand, for a given street width, increasing the number of streets reduces the supply of developable real estate, which is a cost not only to profit-seeking developers but also to tax-collecting municipal governments. The cost of granularity then is less private land and public revenue, assuming the economic activity per foot stays the same on each shorter block. But Jacobs's argument is that shorter blocks promote walkability (and deter drivability), and

⁴Léon Krier (2007: 129): "The number of street corners is an indicator of urbanity...."

granularity enables more opportunities for diverse uses per distance traversed. Therefore, we might expect the level of economic activity per foot of frontage to increase to offset the cost of undevelopable land and so actually increase total revenue, private and public.

Andrew Alexander Price has developed a handy tool for calculating the size of an average block in each area (and therefore the number of blocks of that size) for a given number of streets and street width (Price, 2013). You can use this tool to calculate the percentage of total land in the grid devoted to streets and conversely the land available for development (subtracting municipal uses such as court houses and power plants). Price uses this tool to demonstrate that the more intricate the street grid is in terms of number of blocks per square mile the greater amount of street frontage there will be. If you divide a block with another street, you create street frontage (for various uses) on either side, even if you lose some developable real estate in the process. In Jacobsian terms that means within a given square mile of the grid, there are more land-uses and more to see and do, even if there is only one thing or use on each block. Note that not dividing a superblock but mandating smaller lots or more lots per block would also increase granularity, but following Price we can see the frontage (and corners) gained from inserting streets would increase granularity for a given number of lots per block. This aligns with the point Jacobs makes about shorter blocks. So, while Price's tool may be helpful as an indicator of a district's "walkability"⁵ it is also useful for measuring what we might call "Jacobs walkability" or the potential diversity of land-use for a given distance walked.⁶

1.2.4 The Need for Old, Worn-Down Buildings

The district must mingle buildings that vary in age and condition, including a good proportion of old ones. (Jacobs, 1961: 187)

⁵ For that, however, the federal government publishes an actual "Walkability Index" <https://catalog.data.gov/dataset/walkability-index>. Accessed 26 May 2023.

⁶ In Chap. 9, there is a discussion of the relation of granularity (and therefore Jacobs walkability) to the concept of "action space."

Aged buildings are a naturally occurring part of an organic, urban landscape, just as trees of different vintages are natural and necessary in a healthy forest by adding temporal variety to sylvan flora (Scott, 1998). As new buildings age, other things equal, their market value tends to decline, making them more affordable in a competitive land market. Jacobs appreciated this and saw it as a natural aspect of a healthy urban process. And just as you can't plant old trees, you can't build old buildings, and Jacobs saw them as critical to economic development. How so?

Quite simply, an aged or worn-down building offers comparatively cheap space for people, often young people, with new ideas but little capital. Such a building typically has unpleasant or inconvenient aspects—its location is not ideal, the floors are uneven, the plumbing unreliable, or the roof leaks. But in this case, these things are, as they say, a feature not a bug. A building with a good location and well-functioning amenities, perhaps because it is new or newly renovated, would be too costly for most people to occupy to test out new ideas. Only the already wealthy could afford new digs and even they would tend to shun using them for risky experimentation. But an old, run-down building allows a promising-but-poor innovator to trade-off a bad location or fewer amenities for cheap space to experiment. If a living city is where economic development takes place through innovation, it needs somewhere, indeed many places, for inspired people to incubate ideas, to test them, and to survive mistakes. Old buildings in this way are ideal incubators, which is why Jacobs (1961: 188) declares, “New ideas need old buildings!”

You can find examples of abandoned factories and warehouses repurposed as homes and studios to artists all over the world.⁷

It is important to note that Jacobs is not at all referring to what today is known as the “landmarking” of historically significant buildings that lend distinction or character to a particular place.

⁷ See for example, “Why warehouse conversions are sweeping the globe”

<https://www.cnn.com/2017/10/26/world/industrial-renovation-one-square-meter/index.html> (accessed 9 May 2023) and “Upcycled Space: 8 Exemplary Industrial to Residential Conversions” <https://architizer.com/blog/inspiration/collections/industrial-to-residential-conversions/> (accessed 9 May 2023).

By old buildings I mean not museum-piece old buildings, not old buildings in an excellent and expensive state of rehabilitation—although these make fine ingredients—but also a good lot of plain, ordinary, low-value old buildings, including some rundown old buildings. (Jacobs, 1961: 187)

In other places, Jacobs does discuss landmarking of a sort, again of particular buildings and not of entire districts, and takes her cue from Kevin Lynch (1960) who wrote about the importance of “landmarks” to urbanites for navigating the urban landscape (such as the Arch at Washington Square). Often, however, these landmarks might simply be a neighborhood diner that locals use as a point of reference. Sometimes these landmarks are prominent historical buildings, and Jacobs was indeed a strong supporter of using municipal authority to preserve buildings of that sort. Such landmarking typically requires the costly restoration of buildings often located in high-rent areas where well-heeled residents use political clout to do the preservation.⁸ That is obviously not what Jacobs has in mind here when she talks about the importance of “old buildings” for promoting land-use diversity, although many misinterpret her as saying as much.

Jacobs is careful to note that old buildings should “mingle” with newer ones. That is because when old, worn-down buildings dominate a neighborhood, it likely reflects its residents lack capital for local improvements, and combined with an absence of primary uses the neighborhood is probably in decline, or what she calls a “slumming slum” (Jacobs, 1961: 270–90). In a general sense, however, a “slum” is simply a neighborhood where people on low-incomes can afford to live (or work, in the case of a commercial or industrial slum). It may well have enough primary and secondary uses to attract and, just as importantly, to retain people along with their precious social connections so there is increasing density (without overcrowding), land-use diversity, and rising per-capita wealth—that is, it is “unslumming” (Jacobs, 1961: 270). It is also the case that if there

⁸ I have been able to find little written evidence that Jacobs would approve of the landmarking of entire districts (West Greenwich Village being the sole exception), especially to the extent to which it has grown in Manhattan, where today over 25% of developed real estate has been landmarked. See this letter: <https://gvshp.org/blog/2016/05/05/continuing-jane-jacobs-work/>. Accessed 9 May 2023. My guess is that Jacobs might have referred to this kind of widespread, large-scale preservation as, as you might have guessed, “taxidermy” (Jacobs 1961: 373).

is a broad range of buildings of different vintages and sizes in a neighborhood, people incubating budding enterprises are likely to find many of the amenities they need nearby (Jacobs, 1969: 188), which can also boost local development.

How relevant are these four elements for explaining economic development today?

2 Re-Thinking Jacobs's Four Generators of Diversity⁹

Given the title of her most popular book, one might well argue that Jacobs's analysis is limited to American cities of the mid-twentieth century. She herself concedes that her focus is on "great" cities and not on smaller cities or towns, a "great city," a city of innovation, in her framework being *sui generis* (Jacobs 1961: 16). That it was limited specifically to "American" cities is more debatable. The examples in *Death and Life* draw mainly from the United States, but her later writings include cities in North America, Asia, and Europe.¹⁰ Indeed, urbanists from around the globe acknowledge the relevance of her insights for their locations. As Jorge Almazán notes, for example, "Jane Jacobs's 'eyes on the street' are now referenced worldwide" (2022: 016). In any case, as I said earlier, Jacobs herself would not insist on slavish adherence to her principles. I believe she would instead insist, as an inductivist (Jacobs, 1961: 440), on changing or rejecting them if we observe patterns that consistently contradict the ones she describes in her books and we were able to provide reasonable alternative explanations to account for those patterns.

What I would like to do here then is to offer some extensions to and re-interpretations of her "four generators of diversity" to address some of

⁹The MIT Technology Review in 2016 reports on a study of Italian cities by a team led by Marco De Nadai that uses databases from OpenStreetMap to empirically test Jacobs's thesis, with an emphasis on the correlation between population density and urban vitality (Emerging Technology 2016). They found that this correlation largely holds up, but that in addition to Jacobs's four generators, "third places"—public spaces where people meet informally—are also an important empirical factor. Note that this relates to the concept of "Jacobs Density" presented in the next chapter.

¹⁰See, for example, her references to Tokyo, London, Paris, Moscow, and elsewhere in Jacobs (1969).

these criticisms and to show that her observations are sufficiently robust to explain how a great city today, American or no, achieves cohesion among its diversity and innovation from what Jacobs calls the resulting “effective economic pools of use” (Jacobs, 1961: 148): the potential or latent complementarities among people, places, and things, that nourishes economic development. As noted, we can usefully and legitimately extend her concept of diversity beyond land-use to include the knowledge, skills, and tastes as well as the backgrounds of people. Indeed, this is implicit when we talk about land-use diversity, proper, because what leads someone to open, say, a Thai grocery and someone else a bodega is precisely the backgrounds, human capital, and preferences they bring to the market. Let’s dig a bit deeper.

2.1 Re-thinking “Mixed Primary Uses”

While it is important to retain the idea of a primary use as an attractor, some might interpret Jacobs as saying that primary uses must attract people on foot, not people in cars. But Jacobs doesn’t seem to denigrate the automobile as such. In her chapter in *Death and Life* on “Erosion of cities or attrition of automobiles,” she says (1961: 338–9), for example, “But we blame the automobile for too much” and goes on to say,

Suppose automobiles had never been invented, or that they had been neglected and we traveled instead in efficient, convenient, speedy, comfortable, mechanized mass transit. Undoubtedly we would save immense sums which might be put to better use. But we might not. For suppose we had been rebuilding, expanding and reorganizing cities according to the project image and other anti-city ideals of conventional planning. We would have essentially the same results I blamed on automobiles a few paragraphs back.¹¹

But even more important than how they get around is what people do, how they interact or don’t interact with one another, once they get out of their cars, trams, etc., wherever that may be. Because no matter how

¹¹ Still, in the preface to the 1993 Modern Library Edition of *Death and Life*, Jacobs acknowledges that her analysis corroborates the intuitions of “foot people” rather than “car people.”

ubiquitous the car (and now the Internet) has become, it is still the case that people interact with one another, to a greater or lesser degree, face-to-face and informally (Christakis & Fowler, 2009: 275) in essentially the way they did in the 1950s on Jane Jacobs's Hudson Street in Greenwich Village, although the physical appearance of these locations (e.g., shopping malls) may be different. The places where face-to-face interactions take place look superficially different today and one driver of that change (no pun intended) has of course been the car.

What then has been the impact on face-to-face (FTF) contact of some of the major patterns of urban evolution in the twentieth century, such as the growth of the American suburb and especially the burgeoning popularity of social media? After all, what is the point of primary uses if there is no need for people to actually go out into public space?

Joel Garreau, author of *Edge City: Life on the New Frontier*, identifies three waves in twentieth-century urban development in the United States after World War II. The "first wave" is the era of the large-scale, residential subdivisions and of mass suburbanization. Ever since Gertrude Stein lamented about her childhood home of Oakland, California, that "there's no there there," people have equated suburbia with placelessness, the absence of identity, middle-class homogeneity, and a lack of human and land-use diversity. The "second wave" begins in the 1960s as retail businesses leave downtowns and city centers and set up in newly created shopping malls in the suburbs to be closer to where people have moved to, now establishing two broad categories of primary use outside traditional downtowns: residential and commercial. The "third wave" begins in the 1990s as office parks and other "industrial" uses cluster with residential and retail centers in suburbs and the even more distant "exurbs" near airports or where interstate highways intersect their concentric beltways outside the central city.

The consequence is the emergence of what Garreau claims is a totally new urban phenomenon: The "edge city" (Garreau, 1991: 6–7) that

1. Has five million or more square feet (465,000 m²) of leasable office space.
2. Has 600,000 square feet (56,000 m²) or more of leasable retail space.
3. Has more jobs than bedrooms.

4. Is perceived by the population as one place.
5. Was nothing like a “city” as recently as 30 years ago. Then it was just bedrooms, if not cow pastures.

With the edge city, Garreau announces that “density is back” (Garreau, 1991: 37). I will have more to say about how an edge city addresses the need for contact a little later when re-thinking density.

But the continuing demand for physical contact is also borne out in studies of social media. For example, Nicholas Christakis and James Fowler (2009) find that while we may have many “friends” on a social media app such as Facebook, we have contact with some of them much more than others. And who are they?

To figure out who was close and who was not, we developed a “picture friends” method based on the photographs that people post on their Facebook pages. The idea is that two people who post and “tag” pictures of each other are much more likely to be socially close than those who do not. We studied all the Facebook pages at a college (we can’t say which one), and when we counted the number of picture friends that students had, we found that, on average, just 6.6 were close friends. (Christakis & Fowler, 2009: 275–6)

While these findings date to the early 2000s and Facebook may be less popular among young people today, replaced by still other online platforms, the pattern they identify is telling: that those we have the most frequent contact with online are those we regularly see face to face. Outside of family they are the ones we feel and know relatively much about through “strong ties.” (I define “strong ties” and “weak ties” in Chap. 5.)

Malcolm Gladwell (2010), journalist of the social sciences and best-selling author, reports that when it comes to risky endeavors, the effectiveness of social media is limited by how well the people connected by it already know and trust one another.

The platforms of social media are built around weak ties. Twitter is a way of following (or being followed by) people you may never have met.

Facebook is a tool for efficiently managing your acquaintances, for keeping up with the people you would not otherwise be able to stay in touch with. That's why you can have a thousand "friends" on Facebook, as you never could in real life. (Gladwell, 2010)

He goes on to say,

The drawbacks of networks scarcely matter if the network isn't interested in systemic change—if it just wants to frighten or humiliate or make a splash—or if it doesn't need to think strategically. But if you're taking on a powerful and organized establishment you have to be a hierarchy. (Ibid)

A network such as Facebook consists of *horizontal* relationships among equals; a hierarchy is a *vertical* relationship among persons of unequal authority or status. His examples of such hierarchies include the Freedom Riders in the Deep South during the 1960s civil-rights movement or more in more recent clashes between organized citizens and public authorities in the Middle East. Risky actions of this kind mean following orders and placing ourselves in harm's way or not succumbing to the passions and fears of the moment, all without close monitoring by our superiors. That in turn requires discipline and strong ties. Facebook and Twitter, on the other hand, are useful for building networks of weakly tied individuals or, as was the case in Cairo during the "Arab Spring" of 2010, as a tool for coordinating the actions of people who are already strongly tied through other means. Strong ties with family or among deep commitment to a religion or ideology bind individuals into effective hierarchical structures. Though not impossible, it is very hard to motivate people in large numbers to take enormous personal risks or make significant personal sacrifices for strangers or impersonal, abstract concepts. In other words, to be effective in high-risk situations, social media need to link together people willing to operate in a hierarchy with strong pre-existing ties among its members who can trust (in a sense that I clarify in Chap. 5) those "in charge."

On the other hand, as we will see in the next chapter, weak ties are especially important for the operation of the competitive market process. For now, the takeaway is simply that for certain actions to take place,

especially those involving risky or dangerous endeavors, social media alone are not enough. Rather, along with the freedom that allows people to make and break social ties, and norms that encourage informal self-monitoring, personal knowledge gained through FTF contact remains essential (Ikeda, 2011; Bailey et al., 2017).

But there is no gainsaying that online shopping and virtual communication, for example, has had a dramatic impact on how people interact and the degree to which they do so FTF. Bookstore chains that dominated the urban landscape in the 1990s have been disappearing, although specialized bookstores have remained to serve a narrow clientele (Ikeda, 2013), and the Covid pandemic dramatically changed the classroom experience. Communication-at-a-distance can of course substitute for FTF contact up to a point, but I suggest that such technical advance serves more to complement traditional human relations. Mixed primary uses in public space should continue to play a vital role in the generation and use of diversity in cities.

2.2 Re-thinking “Short Blocks”

The virtues of FTF contact go beyond the ability to get to know one another on a more personal level and to strengthen ties. In fact, as we will see in Chap. 5, making (and breaking) ties is an essential part of a successful urban process. From the point of view of the dynamics of economic development, FTF contact creates opportunities for us to make new connections, to use them if the opportunity arises, and to spread information outside our local networks, whether or not we want to. Much of this can occur deliberately or simply through casual or serendipitous contact, if social institutions and the design of public spaces allow for it. By encouraging more frequent contact, “short blocks” is, as we’ve seen, an important aspect of the urban design.

For decades of the twentieth century, urban-design theory was dominated by the “superblock” concept that cuts the number of intersections, with street frontage sometimes stretching hundreds of meters, putting more space between people and land-uses than has historically been the case. As we will see in Chap. 7, this is especially true of the urban

approaches of the pioneers of large-scale urban design: Frank Lloyd Wright, Ebenezer Howard, and Le Corbusier. Some of this was in response to the rapidly growing urbanization and the negative externalities that took place in the West after 1800, but it was also due to modernist ideologies that became popular during the early twentieth century. But in some ways, the centuries-old yearning for walkable urban areas found expression in other ways.

Although shopping malls are partly the unintended consequence of zoning restrictions and public policy, they are also, in large measure, the demand for density and diversity reasserting itself. Indeed, the designer and “mall maker” Victor Gruen saw in the enclosed shopping mall an opportunity to recreate the vibrant street life of his native Vienna, Austria (Hardwick, 2004). Since the 1990s, even as malls grew to enormous size, they continued to develop the earlier malls’ themes of walkability and intricacy. And with the advent of cheaper outdoor heating and cooling technology, malls began to shed their enclosures in the twenty-first century and are increasingly finding their way back into downtowns, in part because of reaction against mid-twentieth-century urban planning and rebuilding. To that extent, these malls supplement rather than replace the intricate short blocks of historical downtowns, even as they attempt in some degree to mimic them (Bird, 2018). In addition, today highways are being torn down and replaced by more walkable pathways and streets are finding their way back to blocks that had been sealed off decades before (Barone, 2018).

But having shorter blocks means more intersections, and more intersections, in the absence of creative traffic solutions (such as “shared space”), can increase congestion and slow car mobility, which Alain Bertaud (2018) characterizes as essentially a real-estate problem. (An important topic that I will discuss in Chap. 9.)

2.3 Re-thinking “Old, Worn-Down Buildings”

One thing Jacobs did not fully consider is that to the extent old buildings effectively serve to incubate new ideas, other things equal, demand for them will increase making them scarcer and pricier unless their supply

increases. Unfortunately, this can only happen gradually over time since, as noted, you can't build old buildings. What might keep prices affordable for entrepreneurs, who are often relatively young and poor?

On the supply side, every building standing today grows older and more worn down by the moment. For some building owners and in some circumstances, the resulting economic depreciation may be less than the cost of repair and renovation, and if someone thinks the value of the refurbished building exceeds those costs then the renovation will take place. In that case, the price will probably be too high for the bright-but-poor entrepreneurs in our story. But in other circumstances it may not pay for an owner to undertake costly renovations, which will add to the supply of old, worn-down buildings. Whether on net such an increase in old buildings will outnumber top-to-bottom renovations will depend on how rapidly the demand for space-to-innovate-in rises relative to the supply, and on the rate of new construction. New construction tends at the margin to draw wealthier buyers away from renovation projects and on the supply side starts the clock on the process of adding to the supply of old buildings.

The fundamental question, however, is how do those who control scarce resources ration them among those who would like to use them? As noted, rich people will tend to shun old buildings unless they find it worthwhile to renovate or to pay someone else to do it. But who decides who gets space in a building if it goes unrenovated? In a market, it is a matter of competition among buyers: Whoever is willing and able to pay the most will get the space. People with little financial capital and a powerful vision will struggle to compete. But that is simply the way things are bought and sold in a dynamic market, where buyers and sellers are free to adjust prices, quantities, qualities, and other relevant factors. So one method of rationing is to let the competition of buyers against buyers and of sellers against sellers determine it.

Another path to cheapen space for experimenting is for someone to subsidize the experimenters. A time-honored source of subsidy is parents and friends. Other examples of private subsidy include "crowdfunding" or the way the Walentas family in the 1970s famously offered low- and zero-price rentals to artists to kickstart development in what has become the wildly successful "Dumbo" district in Brooklyn, New York (Pogrebin, 2008).

Of course, another way to cheapen space is to get taxpayers to subsidize it. But the economics of government subsidies is entirely different from that of market competition. Jacobs (2000: Loc. 1471–75) herself criticized business subsidies because she understood that they distort the feedback from money prices. It is also the case that, whether private or public, subsidies tend to be rationed according to someone's personal judgment based on something other than willingness and ability to pay. How is that different from the market method? To the extent rationing takes place based solely on ability and willingness to pay, the market process is *impersonal*: it doesn't matter whether buyer and seller know each other, belong to the same ethnic or cultural group, have the same social connections, and so on. But to the extent that the rationing process is not impersonal, those who wish to buy or rent a subsidized space have to demonstrate to whomever distributes the subsidy that they are somehow deserving "on the merits of the case"—for example, they are poor artists or an entrepreneur under 30 years old or a relative of the subsidizer or someone with the right political views—these factors are more likely to come into play. In other words, to the extent the decision is not market-based, an outcome that most would consider fair may be more difficult to achieve because the deciding criteria will tend to be arbitrarily personal.

If I may digress here slightly to note that no market is entirely driven by the principle of ability and willingness to pay (which as we will see from a market-process viewpoint is not necessarily a bad thing), and so to the extent it is not even private, subsidizers will have to make decisions based on their own preferences, constrained by opportunity costs and a hard budget constraint. As a result, the basis for determining success from the point of view of the ultimate interests involved, whomever they may be, are harder to pin down. Success and failure of any kind of subsidy is harder to determine without the profit and loss signals markets provide. But even though both private and public subsidies suffer from this weakness vis-à-vis pure market competition, public subsidies tend to have softer budget constraints that are further removed from the discipline of profit and loss. And since the taxing powers of a government not only soften constraints but also generally make available much larger

sums than private subsidies, the consequences of error in such cases are, other things equal, potentially much greater and the incentive to avoid error is smaller because of the absence of a direct material interest in success. We tend to care less if our investments fail if the loss is borne mostly by somebody else. If people in government had perfect knowledge—that is, enough knowledge such that they would never regret any policy decisions they make—then they could plan perfectly *if they wanted to*.

Finally, another private option that has emerged where real-estate prices are far above the national average is for several start-up companies to share office space. “Shared office space” and “shared co-living space”¹² highlight another advantage of a private approach over public subsidy: The greater possibility, where social institutions empower us to actually innovate in the creation of new ways to innovate. Chapter 5 elaborates on the advantages of social networks for this kind of creativity and innovation. (Solutions like this, as we will see in Chaps. 8 and 9, depend on the ability of informal rules and formal regulations and regulators to appropriately adjust to changing human and natural conditions.)

2.4 Re-thinking “Population Density”

After the first wave of decentralizing, low-density urban sprawl following World War II, and the second wave of suburban commercial “mallings” beginning in the 1970s, we noted that Garreau sees in edge cities a novel setting for old-fashioned population density (Garreau, 1991: 37). Their “five million plus square feet of office space,” combined with “six-hundred thousand square feet of retail” and “more jobs than bedrooms” reflect an updated, car-based version of Jacobsian urbanism and means that an edge city, at least to those who inhabit it, is a unique “place” and not a placeless exurb. What once might have been sprawl has evolved into a new kind of

¹²For shared office space, see, for example, Alton (2017) and for co-living space, Mather (2018).

city, but still a city in Jacobs's sense of an engine of innovation and economic development (Jacobs, 1969: 262).¹³

In addition, Peter Gordon and I (Gordon & Ikeda, 2007) propose an alternative to conventional density called "Jacobs Density," which tries to capture the interdependence among proximity, population size, and diversity. We define *Jacobs Density* as "the level of potential informal contacts of the average person in a given public space at any given time" (Gordon & Ikeda, 2011: 448). It is roughly the number of possible connections within a given group of people. Jacobs is the first to introduce the term "social capital" as it is commonly used today into the literature of social theory (Jacobs, 1961: 138), and Jacobs Density is an extension of the idea of social capital. The caveat discussed earlier about the current overemphasis among some urbanists on density still holds, however. (I develop this more fully in Chap. 5.)

3 It Is the Interaction of These Factors That Generates Diversity

According to Jacobs, these four factors complement one another.

All four in combination are necessary to generate city diversity; the absence of any one of the four frustrates a district's potential. (Jacobs, 1961: 151)

All need to be present in the same neighborhood to interact over time for diversity, and ultimately cohesive complementarities, to emerge and thrive.

¹³ But some of the data show only a weak relation between density and development.

To measure whether density is related to the kind of innovation implied in Jacobs's definition of a city, Peter Gordon and I examined the relation between population density and a proxy for innovation; namely, the percentage of the population holding a master's degree or above. We found that at the city-level, this relation appears to weakly hold, but looking closer at the micro-level (at Public Use Microdata Survey data on zip codes from the American Community Survey), the relation vanishes (Gordon & Ikeda, 2007). Even if we are mindful of the limitations I pointed out earlier of population density as a defining characteristic of a city, we need to ask what is going on here? One possibility is that there is interaction across rather than within PUMS in a city that are important for the development of human capital. Glaeser et al.'s (1992) "Jacobs spillovers" perhaps? This is an area of future study.

Without mixed primary uses to operate as a people-attractor, for example, not enough of us will have a reason to use public spaces so that even high population density will not supply “eyes on the street”; if there are mixed primary uses, but population density is too low, there will not be enough of us in public space at different times for safety and to form social networks; blocks that are overly long will discourage lively pedestrian use and FTF contact, what Jacobs calls the “small change from which a city’s wealth of public life may grow” (Jacobs, 1961: 72), resulting in dull, often scary public spaces; and without enough cheap space mingling with the new, a neighborhood will lack a crucial foothold for potential experimenters to spark innovation. The interaction of all these factors generates Jacobs’s effective economic pools of use.¹⁴ The neighborhood may survive but will fail to contribute to the long-term economic development of the city.

Another point to keep in mind is that a variety of land-uses and other forms of diversity cannot emerge or sustain themselves unless social institutions—that is, shared rules, norms, conventions, networks, and organizations—are stable enough for people to rely on for making plans, especially complicated plans for the long-term. It may sound paradoxical, but Jacobs argues that one of the factors important for such institutional stability is the mobility of the population: How easy or time-consuming is it for people to move from one part of the city to another either for daily commuting or for longer-term residence (Jacobs, 1961: 139)? Similarly, Alain Bertaud points to the critical importance of the mobility of urban populations from the perspective of cities as labor markets (Bertaud, 2018: 19–49). If an area that is otherwise highly desirable to be in is difficult to enter or leave, it is unlikely to generate much diversity because people will tend to avoid it. If living in “Lonely Gardens” means having an inconvenient commute—perhaps because of long distances

¹⁴The noted urban planner Alain Bertaud offers a good example of such an effective pool of use:

For instance, a lawyer who specializes in European agriculture regulations would not be very productive if she were surrounded only by people with the same skills. To be effective, she will have to be in close contact with other specialists in taxation and import tariffs, and she will need to engage the services of workers who will fix her computer, clean her office, deliver coffee to the board room, and prepare and serve the food that she will eat at lunch. In the same way, an unskilled industrial worker is likely to work in a factory requiring a large array of workers specialized in electronics, mechanics, labor law, insurance, and so on (Bertaud 2018: 32).

from jobs and poor transport options, or because it abuts a dangerous area—this may deter us from moving there in the first place or from staying very long if we do. That is one of the problems with what Jacobs calls “slumming slums”: Most people want to get out of them as soon as they can. Whereas “unslumming slums” are those low-income communities that can maintain reasonably healthy social institutions and connections because people have an incentive to live or work there long enough for social networks to take root and flourish (Jacobs, 1961: 270–90).

3.1 Diversity and Resilience

Stable, however, doesn’t mean static. Social institutions need to be able to adapt to changing tastes, technologies, and resources; or to changes in demographics, lifestyles, and the natural environment (Ikeda, 2012). A diversity of land-uses within a neighborhood or district fosters an ongoing process of creativity in an economy and its culture. Jacobs points out their common foundation in urban diversity:

[W]herever we find a city district with an exuberant variety and plenty in its commerce, we are apt to find that it contains a good many other kinds of diversity also, including variety of cultural opportunities, variety of scenes, and a great variety in its population and other users. This is more than coincidence. The same physical and economic conditions that generate diverse commerce are intimately related to the production, or the presence, of other kinds of city variety. (Jacobs, 1961: 148)

Such diversity can also promote urban resilience during an emergency. *The New York Times* architecture critic Michael Kimmelman observes, for example, that just after Hurricane Sandy in 2012 severely damaged parts of the New York–New Jersey shoreline, clubs and other public spaces quickly transitioned to serve as emergency shelters and gathering places for those threatened by or made homeless by the storm.

Less ravaged neighborhoods were more densely populated, with vibrant commercial strips and social networks, community gardens, parks and well-tended sidewalks. They drew people out of overheated homes and into

the streets, shops, gardens, parks, and into libraries, too: places where there were things to do and friends to meet. (Kimmelman, 2013)

Not only could the same land be used differently over long periods of economic development, the same space could be used for entirely different purposes and re-tasked very quickly if the social networks in the surrounding neighborhood are sufficiently robust (“multiplex” in the language of social-network theory of the next chapter) to enable strangers to come together in a crisis. As Kimmelman suggests, that kind of rapid adaptability and resilience, a form of inter-temporal complexity discussed in the previous chapter, is most likely where land-use is diverse.

Combined within an urban setting, these four generators of diversity enable ordinary people to more effectively utilize the complex divisions of labor that result and to better explore, experiment, and adjust to unexpected change.

3.2 Safety and Diversity

Jacobs places prime importance on safety and security in a great city, calling it a “bedrock attribute” (Jacobs, 1961: 30), and it is worthwhile spending a little more time on this subject.

Feeling unsafe in a public space discourages us from seeking out the diversity and uniqueness of others for mutual gain, and it also discourages us from displaying our own diversity or developing our own uniqueness in public interactions. Other things equal, we would be less willing to look and behave differently from the prevailing norm. Differences that are complementary within a heterogeneous population might still exist, but it would not be to anyone’s advantage to try to make otherwise valuable contact with people, especially strangers, very different from ourselves. Fear makes us less welcoming to strangers. Withdrawing from people we don’t already know strengthens norms of exclusivity and weakens norms of inclusivity and tolerance in our social networks, so that support for immigration within and among cities wanes. The critical factor of urban mobility (and Jacobs Density) declines.

While relying heavily on professional police to maintain public safety may be one way to restore a general feeling of security in public space, a successful city is one in which safety and security arise with a minimum of conscious direction or formal policing. Jacobs points out (1961: 32) that if the only way to keep public order is to place professional security on every street corner, that city is failing in its “bedrock” function.

The first thing to understand is that the public peace—the sidewalk and street peace—of cities is not kept primarily by the police, necessary as police are. It is kept primarily by an intricate, almost unconscious, network of voluntary controls and standards among the people themselves, and enforced by the people themselves. (Jacobs, 1961: 31–2)

How have cities historically achieved public safety informally?

Jacobs begins with the observation that we are less likely to threaten or provoke others if we know we are casually being watched by eyes on the street than if we don't think we are. In most cases, then, the more likely it is we believe someone is watching us, the more restraint we will show. Contrariwise, if we believe no one is watching then, other things equal, we tend to feel less constrained to follow norms of civility. It is probably not even necessary for someone actually to intervene were we misbehave; merely being seen is usually enough deterrence for any but the most determined offenders.

If not more police, the key then is to find a way to get more unofficial eyes on the street, people who though we may not know them at all are familiar enough with the norms of the particular area to know whether those norms encourage or discourage private intervention should a problem arise (Wilson & Kelling, 1982). Jacobs refers to this “brains behind the eyes” (Jacobs, 1961: 56). It is especially important to know whether or not someone's “got our back” if we intervene.

Using public space for parades or other special events may occasionally get people out in large numbers and contribute to community spirit, but sporadic interactions aren't likely to create the same kind of long-term relationships that ground an effective social infrastructure. And, of course, forcing us to attend public gatherings, as some governments do, may generate some benefits but also great costs and negative consequences,

including the loss of personal freedom and spontaneity. So there needs to be positive incentives to encourage people to use public spaces throughout any given day.

Enter mixed primary uses. People attract people in part because there is “safety in numbers” and because we may have no particular reason to go out in public other than that we like watching other people, and perhaps like being watched by them in turn. Land-use diversity within the same neighborhood or location of the city, created by people supplying or demanding different goods and services at different times, attracts people in sufficient numbers to provide the eyes on the street. And the more diverse the uses of public space—for schools, residences, offices, museums, movie theaters, night clubs, shopping, commerce, etc.—the more likely that these attractors will operate at different times, producing Jacobs’s “intricate sidewalk ballet.”

But business-improvement districts or municipal centers between 6 pm and 6 am on weekdays or on weekends tend to be deserted and lacking in interest, creating an urban vacuum. This is true of any single, massive use, governmental or private. The absence of *short blocks* and the presence of such vacuums can easily drain the life out of an area.

While in *Death and Life* Jacobs’s focus is on the diversity of land-use rather than on the diversity of people themselves, people will use a space, say a store front, as nail salon or a coffeehouse, if they are allowed to, in a manner that depends a great deal on their individual knowledge and skills, or what economists call “human capital.” Moreover, the kind of diversity that attracts people and provides safety in a great city is not only diversity of land-use (on the supply side) but also (on the demand side) a diversity of tastes and an openness to, or at least a tolerance of, the new and the different, which can depend on a person’s personal background and experience.

But how do cities and the economic processes within them find the balance between balance diversity and cohesion? Besides social networks and connections, what else enables and encourages us to voluntarily use public space, provide land-use diversity, and reach out to the socially distant? What other mechanism transforms diversity into a coherent set of complementary uses, and turn potential conflict into cooperation? Just

below the surface of Jacobs's analysis, present but largely unspoken, is the force of economic incentives. Time to look at it from this angle and make it explicit.

4 How the Market Process Solves Jacobs's Problem of Diversity and Cohesion

The two apparently opposing forces of diversity and cohesion are essential to urban vitality. The four generators of diversity create a variety of land-use that set the stage for safety, peaceful contact, and dynamic social networks to emerge, all of which are necessary for large-scale, voluntary social cooperation and economic development.

As noted in Chap. 2, Jacobs appears to take it for granted that the people she is writing about operate under a regime of economic freedom: that is, private property, free association, rule of law. Also, while she doesn't draw on the standard economic analysis of markets, supply and demand and all that, at least not until *The Nature of Economies* in 2000, neither does she offer a clear alternative explanation for why people would take advantage of the institutional setting I have just described. The latent complementarities of Jacobs's "effective economic pools of use" offer the *potential* for discovering valuable complementarities, but what incentive do people have to bring these elements together?

Jacobs lacks an explicit theory of markets or entrepreneurship to pull everything together and complete her theory of economic development.

This section introduces concepts from market-process economics to fill in these important gaps in Jacobs's analytical framework, which I believe will strengthen the analytical power of Jacobs's economics. At the same time, connecting competition and entrepreneurship with the "non-market" or sociological foundations of social cooperation that Jacobs relies on—for example, social networks, social capital, norms of trust, and reciprocity—nicely complements market-process economics.

While not all diverse elements in a population are complementary, or may not be at any particular moment, it is important to note that

productive complementarities cannot exist at all unless people perceive¹⁵ them in the first place and have an incentive to act upon those perceptions. Complementarity would not be possible without heterogeneity. There would be little reason for us to associate with one another unless we perceive valuable complementary diversities among ourselves that would make associating worthwhile. (This is a version of the basic economic principle of comparative advantage.)

Beyond merely perceiving differences among diverse elements, for us to regard those elements as complementary, as fitting together in a way that is more useful to us than the individual elements by themselves, we need to see them as parts of a plan (Lachmann, 1978: 54). That is, we need to have a goal in mind that the diverse elements we perceive can in our estimation help us to achieve, as means to an end. If we want to drive from New York to Chicago, then a car and gasoline—two otherwise very heterogeneous elements—would serve as complementary inputs for getting us there. On the other hand, for a different goal, such as commuting to work, neither a car nor gasoline may in our estimation be even necessary if a train or walking is more convenient.

It is also possible that we have a plan and see potentially valuable, complementary diversities around us but the rules, norms, or conventions of our community somehow discourage us from engaging with outsiders—“We don’t associate with those kinds of people!”—preventing us from exploiting those complementarities, thereby lowering the value to us of those diversities. In such cases, what differentiates a person, place, or thing from others could easily be an obstacle to cooperation and those differences easily lead to conflict. The value of diversity would fall to the extent that we are prevented or discouraged from relying on or interacting with that which is different from ourselves.

Again, the questions we have been addressing are: What are the conditions that enable complementarities and cohesiveness to emerge and to be exploited among diverse persons, places, and things? What factors determine the balance between diversity and cohesion? What are the forces that maintain or adjust that balance under changing conditions

¹⁵“Perceive” here means both (1) become aware of or (2) subjectively believe the existence of and so may be true or false (i.e., result in net gains or not).

(which Jacobs refers to as “dynamic stability” (Jacobs, 2000: 84))? How does a city and the socioeconomic processes it fosters successfully enable this? In the presence of self-interested persons with imperfect knowledge operating in a world of scarce resources, why would socially distant strangers freely choose to associate with one another at all?

4.1 Markets Turn Diversity into Complementarity

The answer lies in the incentives, institutions, and resulting choices that drive the market process. And the organizing principle of the market process as well as the living city is competition, supported by norms such as fair play, honesty, reciprocity, and trust.¹⁶ Again, a community of people with socially distant backgrounds offers a wide range of mutually beneficial opportunities in the form of potentially complementary diversities within effective pools of use. Under the right conditions, the more diverse they are, the wider will be the range of such opportunities. There are net gains to be made not only by substituting one use for another—for example, a Shake Shack for a Burger King—but more importantly, from the standpoint of innovation, by bringing complementary heterogeneous uses together in novel ways, for example, connecting a car owner with time on her hands with someone who needs and is willing to pay for a ride with the help of an app. And in the urban process, alertness to such opportunities and the discovery of radical ignorance is the role of entrepreneurship (Kirzner, 1973). In the market process, entrepreneurial competition is one of the main cohesive forces that transforms heterogeneous elements into complementary uses.

As I pointed out in Chap. 2, it was not until Jacobs published *The Nature of Economies* in 2000 that she effectively explains the essential role of money prices as a feedback mechanism that guides decisions on the market. Even then, she doesn't present a full and detailed explanation of the competitive market process. She doesn't carefully explain what motivates people to engage in trade with those whom they don't know and the role of prices and competition in that process, perhaps because she takes

¹⁶These and other elements of what Jacobs calls the “Commercial Moral Syndrome” in Jacobs (1992) are discussed on Chap. 9.

it for granted. But she does articulate an understanding of the role of profit-seeking and loss-avoidance in a living city.

Now, some may find the word “profit” in this discussion troubling or objectionable. Jacobs does not. A quick search of my electronic version of *Death and Life* of “profit” and “profitability” shows 36 results. Of those, it is true that by my count (the reader may come up with a different number) a plurality (16) cast profit in a negative light. None of these, however, disparage profit-seeking and profitability, per se. Ten or so of these negative characterizations appear in her discussion of “the self-destruction of diversity”—an important dynamic that I will treat in Chap. 6—in which she doesn’t condemn profit-seeking, but the consequences it can lead to under certain circumstances. Similarly, the remaining six or so negative results, which relate to public housing and the use of eminent domain, take aim less at profit-seeking than at gains earned by gaming public policy (which is called “rent seeking”). Sixteen results are neutral references, and only four can be considered positive characterizations of profit-seeking. Of the latter, however, it is worth highlighting the following passage because it plainly expresses the way in *Death and Life* Jacobs sees the strong connection between “profit-making enterprises” and lively, livable cities:

Nor is the diversity that is important for city districts by any means confined to profit-making enterprises and to retail commerce, and for this reason it may seem that I put an undue emphasis on retail trade. I think not, however. Commercial diversity is, in itself, immensely important for cities, socially as well as economically. Most of the uses of diversity on which I dwelt in Part I of this book [on the significance of sidewalks, parks, and neighborhoods for successful cities] depend directly or indirectly upon the presence of plentiful, convenient, diverse city commerce. (Jacobs, 1961: 148)

Still, there are important gaps in her economic framework and filling them in makes for a powerful tool for understanding the living city as a socioeconomic phenomenon, by offering a more complete explanation of how a living city peacefully resolves the tension between diversity and cohesion. To that end, the following is a brief outline of the role of entrepreneurial competition in market-process economics.

4.2 Entrepreneurship Is a Coordinating Force in the Market Process

Market-process economics takes as its starting point the presence of radical ignorance in any really existing social order. As noted in Chap. 3, radical ignorance refers to the phenomenon of “not knowing that you don’t know.” For example, a property owner who would like to sell a particular parcel at a price no lower than \$1 million may be unaware that the person sitting next to him at a local café would be interested in buying it, or knows someone so interested, for up to \$1.3 million, but is totally unaware of it. Clearly, there are pure gains from trade to be made here from their differences in valuation. It is not that either person has *chosen* not to know about the other because it is too costly, for which economists would use the term “rational ignorance” or ignorance by choice, but that neither is even *aware* of the opportunity that awaits them, at no or very little cost, at the next table. To become aware of the profit opportunity would require an act of discovery on the part of one or the other or perhaps of a third party acting as an intermediary. The aspect of human action responsible for such acts of discovery is the *entrepreneur* (Kirzner, 1973; Ikeda, 1994).

In a mature market economy, the prices that emerge from competition among sellers and among buyers aid us in making an entrepreneurial discovery, in learning about someone or something that up to now we didn’t even know we didn’t know. In the example, the difference in the potential prices offered (\$1 million) and bid (\$1.3 million) represents a reward of pure profit (net of any selling or buying costs) that provides the incentive for each person to become aware of the other. As I indicated, any third parties also have an incentive to discover the opportunity and profit from selling the information they have uncovered. The owner, potential buyer, or anyone else stands to earn a pure profit from uncovering radical ignorance and they are all potential competitors in the process of competitive discovery. This simple example reflects the essence of the entrepreneurial-competitive process. Differences in the way we value people, places, and things represent potential profit opportunities to an entrepreneur who can discover and transform those differences into

value-creating, mutually beneficial complementarities. Jacobs's insight that a great city facilitates creative experiment depends precisely on this transformation.

Also, to the extent market prices reflect the preferences of buyers and sellers, they reflect the scarcity of resources—land, labor, capital—in the market process. So, market prices serve a dual function in market-process economics: (1) if people are unaware of the preferences for tradable resources in the system, the emergence of market prices from trade, even if they are a little off and deviate from their equilibrium values, assist in the entrepreneurial discovery of those preferences; and (2) market prices, imperfect though they may be, give buyers and sellers at least some indicator of whether their plans have a chance of succeeding. Without market prices, we would be operating in the blind, utterly unable to calculate expected profits and losses. That means we wouldn't be able to know if we are using scarce resources wisely or poorly or if we are passing up profitable opportunities that we stood a much better chance of discovering if we had market prices to go on (Mises, 1981[1922]).

Even in a well-functioning market, the discovery process is never perfect. Indeed, just like living cities, when no one has perfect knowledge, we should expect mistakes, disappointment, and failed plans. The question then becomes, in the presence of imperfect knowledge, what sort of environment is best suited to help us discover and correct our mistakes? For market-process economics, the rules, norms, conventions, institutions, and organizations that minimize coercion and compulsion, that rely as much as possible on voluntary cooperation, are what enable flexible adjustment in the face of unexpected change. And if society has tolerance for the inevitable failures and disruptive successes of the competitive process, the consequence tends to be robust economic development.

It is, by the way, the same with scientific progress. When the practice of science is healthy, “expert opinion” and beliefs old and new are open to challenge and radical criticism (Polanyi, 2015). True science is never settled and neither is the market process—or a great city. But just as the residents of a living city need to be tolerant of ideas, offerings, and lifestyles that may offend them to some degree, in science, such criticism requires radical tolerance of the strange. Free science, free cities, and free societies thrive with heavy criticism and constructive conflict. But the balance

between tolerance and criticism is crucial, and when that balance is right, the market process will flourish. Tolerance without criticism and criticism without tolerance lead by different routes to uncreative, social torpor.¹⁷

Entrepreneurship, in the form of coordinating complementary resources, takes place in both private and public spaces. People working within a private space such as in a company may discover new ways of doing something old, or a new use for an existing factor of production or procedure, or discover an innovation that cuts across existing processes and markets (Jacobs, 1969: 52, 197).

But for our purposes, it is worth emphasizing again that cultural and commercial entrepreneurship takes place in public space rather than private space. As I indicated in Chap. 2, it is in public space where the main challenge of the urban and market processes lies and where you will see most of the heavy lifting of entrepreneurially competitive coordination and cohesion. It is where ideas are tested. Economic development involves new ways of thinking that greater potential for disruption when local agents can connect despite long social distances (Ikeda, 2012). And for this, as we have seen, multiple attractors, the intricacy of short blocks, population density, and widely affordable space for experimentation, represent elements in a complex reciprocating system (Ikeda 2012a). The result of these interactions, as we saw in the last chapter, is a social order of “organized complexity.”

(The next chapter applies the concepts of entrepreneurship and entrepreneurially driven competition to the realm of social networks.)

5 Concluding Thoughts

In *Death and Life of Great American Cities*, Jane Jacobs explicates four factors that together generate diversity in public space. I have shown that these four “generators of diversity” are a useful framework for helping us to understand how social cohesion emerges from diversity, but one that may be extended and reinterpreted as I have done here. Jacobs also

¹⁷I offer my thoughts on tolerance and criticism in this short essay: <https://fee.org/articles/the-fruits-of-imperfection/>. Accessed 26 May 2023.

explains how social networks, which are the result of as well as generators of trust, also enable all that diversity to cohere. But social networks are only one way that a living city can make heterogeneous elements of its space, as well as its people, complementary. The other way is through the competitive market process, which offers opportunities for alert entrepreneurs to profit from turning the diversity that living cities continually generate into a rich, complex, dynamic, and unpredictable mosaic that hangs together through time. Adding market-process economics to the Jacobsian analysis of the nature and significance of urban diversity reveals the strong incentives we have to take advantage of the effective economic pools of use that a living city spontaneously generates. Combining Jacobs's analysis with market-process economics effectively explains how a system capable of generating so much diversity can be equally effective in achieving cohesion.

Just as it is possible to enhance Jacobs's theory of economic development with market-process economics, it is also possible to develop her insights into social networks by applying more formal social-network concepts and theory, and that is what the next chapter is about. By so doing, it will also be showing the value of adding a social-network approach to the market-process theory of entrepreneurial discovery.

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