

Cities and the Economic Development of Nations: An Essay on Jane Jacobs' Contribution to Economic Theory*

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Urban theorist Jane Jacobs' critique of the bulldozer-driven urban renewal policies of the post-war era, *The Death and Life of Great American Cities* (1961), has exerted a profound influence on the thinking of legions of architects, planners, developers, urban politicians and community activists and was, as could be expected, the book most often mentioned in the obituaries published in the days following her death on April 25, 2006.¹ Yet, many people somewhat familiar with Jacobs' life and writings might be surprised to learn that her own favorite work

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1. Several obituaries can be found on an online memorial weblog that was set up following Jacobs' death: <http://www.janejacobs.tyo.ca/>. Klemek (2007) and Laurence (2006) are examples of recent scholarship on Jacobs' writings on urban planning.

was *The Economy of Cities* (1969) and that she thought her most significant contribution was in the area of economic development rather than urban planning (Nowlan 1997; Steigerwald 2001).

While Jacobs' economic writings have until recently been mostly ignored by regional scientists, urban economists and economic geographers, they have served as a springboard to scholars working in disciplines ranging from archeology (Algaze 2005) and philosophy (Lawrence 1989) to urban and economic geography (Desrochers 2001; Florida 2002, 2004, 2005; Hospers 2002; Taylor 2006b), development studies (Ellerman 2004; 2005) and heterodox economics (Côté 1991; Ikeda 2004). Somewhat surprisingly, "Jacobs externalities" (sometimes also labeled "Jacobs spillovers") have become a key concept among mainstream growth theorists who now associate Jacobs with the idea that a diversified local economy is conducive to knowledge spillovers between different lines of work (Glaeser et al 1992; Duranton and Puga 2000). And yet, it is probably the case that many economists familiar with the concept have no idea of the range of Jacobs' development work, or even of who she was.

This essay is both a preliminary critique and a plea for a greater appreciation of Jacobs' economic writings. While it is true that a number of her economic observations, interpretations and proposals are either factually wrong, questionable and/or probably ill-advised, it is our opinion that her utter lack of respect for traditional academic boundaries and heuristics allowed her to formulate several original insights that deserve closer scrutiny.

The paper is structured as follows. The first section presents a brief overview of her life and writings, with a particular emphasis on what we believe were some relevant formative events and personal circumstances. It is followed by a summary of her key economic ideas. The third section briefly discusses the roots of Jacobs' current popularity among mainstream economists, shortcomings in current empirical approaches to her work, and one alternative approach to "Jacobs externalities". We conclude by an assessment of the main strengths and weaknesses of her study of economic life.

Early Life and Work²

Although Jacobs is better known for her struggles against "highway men" and modern planners, it seems fair to say that her interest in economic development and decline predates her writings on the urban physical environment. One can certainly identify a few events and circumstances that sparked her interest in the issue, such as the fact that Jane Butzner was born and grew up in the declining Pennsylvania anthracite-mining city of Scranton; the six months she spent as a

2. For more detailed biographical treatments of Jacobs' life and work, see Allen (1997), Lawrence (1989), Sparberg Alexiou (2006) and Taylor (2006a). Some factual matters discussed in this section were taken from two lengthy interviews with Jacobs conducted by the authors in 2003 and 2004.

teenager in the isolated mountains of western North Carolina working with an aunt who ran a community centre for the Presbyterian home missions; and her move as young adult to New York City in the middle of the Great Depression where, unable to secure the newspaper or magazine appointment she was looking for, she fell back on a variety of stenographic and secretarial jobs working for, among others, businesses involved in drapery hardware, clock making, steel distribution and candy manufacturing. Being frequently unemployed and looking for work, she wandered extensively across the metropolis and wrote articles for newspapers and magazines about some of the local working districts that fascinated her.

She eventually secured a writing job with the trade journal *Iron Age* which she kept for three years, before being employed as a feature writer with the Office of War Information, and later as a reporter for the State Department and Overseas Information Agency's *Amerika*. In the meantime, she met and married an architect by the name of Robert Hyde Jacobs Jr. In 1947, the couple bought a dilapidated three-story building in Greenwich Village and eventually raised three children there. In 1952, she took a position with the magazine *Architectural Forum* and quickly became disillusioned with the urban planning canon of the time which emphasized webs of expressways, open spaces, high rise public housing and single-function districts.

Her writing and thinking eventually came to the attention of William H. Whyte, Jr. (1917-1999), back then an editor of *Fortune* magazine, who asked her to write a piece on downtowns for his publication's series on "The Exploding Metropolis". The resulting article "Downtown is for People" (1958) led to a grant by the Rockefeller Foundation which gave her the opportunity to expand significantly on the article's main themes. Two years and four months later, Jacobs published her instant classic *The Death and Life of Great American Cities* (1961) in which she recommended, among other things, the mixing of primary uses such as housing, shops and offices; higher population densities; shorter blocks; and the abandonment of mega public housing projects.

Soon afterwards, Jacobs began investigating economic growth and decline, eventually publishing *The Economy of Cities* (1969), an essay on the microeconomic foundations of cities; *Cities and the Wealth of Nations* (1984), an essay on the importance of cities for national economies; and *The Nature of Economies* (2000), in which she drew parallels between the evolution of biological and economic systems. One can also find various economic discussions in her other books, beginning with *The Question of Separatism: Quebec and the Struggle over Sovereignty* (1980) which made a case for Quebec's secession on economic grounds; *Systems of Survival* (1992) a dialogue on the moral foundations of commerce and politics; and *Dark Age Ahead* (2004), an uncharacteristically pessimistic essay in which she warned of "ominous signs of decay" in our society.

Despite her advancing age and failing health, Jacobs began working on two more projects, tentatively titled *A Short Biography of the Human Race* and *Uncovering the Economy*, which were never completed. Following one year of ill health in which she suffered several strokes, she passed away in Toronto on April 25, 2006.

Jacobs on Economic Development

Jacobs wrote about economic processes at an early stage in her life, as it attested by her first paid pieces published in *Vogue* magazine in the mid-1930s where she described in vivid details the birth and intricacies of New York's flower, diamond, fur and leather districts. Another article, published in 1945 in *Harper's Bazaar*, similarly announced later research themes by describing the social and economic decline of a fishermen's community on an island off the coast of Maine (Allen 1997). It was not, however, until *The Economy of Cities* that she would begin to elaborate a complex theoretical framework to answer the age-old question of why some economies grow and others stagnate and decay.

Her main ideas can be summarized as follows:

- Despite nearly universal beliefs that the production of an agricultural surplus was a prerequisite to urbanization, cities actually paved the way to sedentary agriculture. The first cities were trading posts that subsisted on "wild food" imports. It is out of the activities of people who managed live animals and stored grains that animal husbandry and the practices of sowing and reaping cereals eventually emerged (Jacobs 1969).
- Cities, whose real boundaries are economical rather than political, are settlements that consistently generate their economic growth from their own local economies. Their pools of skills, manufactures and materials, at once diverse and concentrated, provide the best conditions for the birth and growth of entrepreneurial small firms and an ever-increasing division of labor from which "new work can be added to old". Economic development is "a process of continually improvising in a context that makes injecting improvisations into everyday life feasible" (Jacobs 1984: 155). Despite their apparent messiness and impracticalities, cities provide not only new problems to be solved, but also the best environment to solve them (Jacobs 1969, 1984).
- There are five major processes at work in a growing city economy: (1) A nascent city finds a market in older cities for its initial export work and builds up a collection of numerous local businesses to supply producers' goods and services to the initial export work; (2) Some local suppliers of producers' goods and services start exporting their own work. New local businesses begin to supply various goods and services for this new export work, and some of them eventually begin to export their own work. In the process, the city imports a growing volume and diversity of goods and services; (3) Many of these imports are replaced by locally produced goods and services through "import replacement", which is not the same process as the "import substitution" policies adopted by the leaders of various developing economies in the 1960s and 1970s. For one thing, import replacement must take place in logical stages, beginning with the parts or inputs most in demand, and must be self-sustaining. For example, Japanese imports of bicycles from the West gave an incentive to local entrepreneurs and mechanics to open repair workshops, to begin manufacturing the most sought after bicycle parts, and eventually to

assemble and later export bicycles entirely made of local components. For economic and practical reasons, successful import replacing can only be a city process. Import replacement creates a powerful multiplier effect and, as result, cities built their diverse economic foundations in “boom” phases. After an import-replacement boom, a local economy contains rooms for goods and services that were formerly neither imported nor locally produced, including unprecedented goods and services; (4) The city’s greatly enlarged and diversified local economy becomes a potential source of numerous and diversified exports. The city’s exporting organizations arise by a) adding the export work to other people’s local work; b) adding the export work to different local work of their own; c) exporting their own local work. The city earns more imports by generating new exports, but many of the new exports merely compensate for declining lost work through obsolescence of older exports, transplants of some organizations into the rural world and replacement of exports by goods now produced in former customer cities; and, (5) The city continues to generate new exports and earn imports, replaces imports with local production, and so on.

- Capital must be used productively in financing economic trial, error and development. This is a costly process, as most innovative ventures will fail. Expensive, however, does not mean wasteful, for in the long run development work is crucial as cities must compensate for production transplanted in smaller towns and rural areas, and for exports lost because they are now being produced in former customer cities. Systematically spending money on projects that have no economic rationale only insures urban decline (Jacobs 1969).
- Economists of most persuasions have wrongly assumed that national economies are salient economic units. Actually, nations are grab bags of different regional economies, some rich and others poor. The real growth engines, however, are cities. When a city develops, it creates five forms of growth which transform its immediate region or hinterland: 1) abruptly enlarged city markets for new and different imports consisting largely of rural goods and of innovations being produced in other cities; 2) abruptly increased numbers and kinds of jobs in the import-replacing city; 3) increased transplants of city work into non-urban locations as older enterprises are crowded out; 4) new uses for technology, particularly to increase rural production and productivity; 5) growth of city capital for investment in the city and elsewhere (Jacobs 1984). City regions thus shape and reshape the economies of other regions and settlements which are made up of “supply regions” (which provide cities with food and raw materials); “abandoned regions” (that lose population to growing cities); “clearance regions” (that apply city-developed technologies to reduce labor requirements, but generate few new jobs for displaced laborers); “transplant regions” (that import city-developed factories and other activities that no longer require the support of a dense urban infrastructure); and “subsistence regions” (which are bypassed by economic development) (Jacobs 1984).
- The existence of large national economies is ultimately detrimental to their

cities. This is due in part (Jacobs only states this as an hypothesis) to the existence of a national currency that overall reflects the economic state of the most prosperous city region and therefore might be providing faulty feedback to other smaller cities. Another problem is that national politics tend to foster “transactions of decline”, i.e., forcible income transfers from productive cities to economically inert regions, in the process reducing development-conducive intercity trade. The main transactions of decline are military spending, social welfare and regional redistribution scheme (Jacobs 1984).

- Economic development is a “do-it-yourself” process that cannot be bought, sold, packaged, anticipated or centrally planned. Effective solutions, such as the successful venture capital firm American Research and Development in post WWII Boston, must not have any preconceived idea of what will work or not. Nothing can be done to help a region that does not have a creative economy of its own (Jacobs 1984).
- Both healthy biological and economic systems have four common characteristics: 1) development; 2) expansion; 3) self-maintenance through “self-refueling”; 4) evading collapse. *Development* is best viewed as an open-ended process by which differentiations emerge from generality, which then become other generalities from which further differentiations emerge. It depends, however, on numerous, various, and intricate co-development relationships. For example, tool making began with four existing generalities: sticks, stones, bones and fire. Our ancestors then differentiated those found generalities into many things from hammers to scrapers and bags, innovations that required the fusion of other, originally unrelated, innovations. *Expansion* depends on capturing and using transient energy. The more different means a system possesses for recapturing, using, and passing around energy before its discharge from the system, however, the larger are the cumulative consequences of the energy it receives, and the more resilient the system is. Thus diverse ensembles expand in a rich environment, which is created by the diverse use and reuse of received energy. For example, a diversified city will generate much more local expansion from a new business venture than a small town, much like a well developed forest's ecosystem will convert more sunlight into biomass than a desert. The refuelment of growing cities, unlike their initial start, depends more on replacing imports than generating new exports (Jacobs 2000).
- Growing economies, like complex ecosystems, are “dynamically stable” inasmuch as they can evade collapse by self-correction through the grace of four processes: bifurcations, positive-feedback loops, negative-feedback controls, and emergency adaptations. Another check on the collapse of advanced human economies are human traits such as aesthetic appreciation, fear of retribution, awe expressed as veneration, persuasiveness, and corrective tinkering and contriving. Systems that make themselves up as they go along are not predictable (Jacobs 2000)

In short, while Jacobs does recognize that economic life sometimes undergoes significant changes, such as when mass production replaced craftwork, her theoret-

ical contribution is one that looks for universal and ahistorical economic patterns and processes. As she put it in an interview, her framework does not describe everything that has to do with economic development and can best be understood as an attempt to mention “the underlying or overriding nature of the process”. In this sense, new production methods do not imply that “the rules that govern the economy are actually changing” because even if the “actual things that development produces change, and even the methods by which people make the things change”, the process of development doesn’t (quoted in Harris 2000).

Jacobs’ originality as an economic theorist was perhaps best captured by the economist Sanford Ikeda in a posthumous tribute. Though critical of several aspects of her work, he observed that her dynamic vision has much to offer mainstream economists who, long ago, “stopped thinking about markets as urban, and replaced it with what Jacobs called the ‘plantation model,’ in which diversity of inputs and outputs and the uncertainties of time were replaced with simple production functions in a world where time doesn’t matter and preferences don’t change”. He adds that mainstream economics emphasis “switched from diversity and complexity to homogeneity and simplicity, from dynamics to statics, and from creativity to efficiency”. In his opinion, Jacobs offers a way out of mainstream economics’ fixation on the notion of efficiency “where today is basically the same as yesterday and tomorrow the same as today, and nothing can be made to work better than it already is”.³

Although Jacobs’ economic writings didn’t have much impact upon the publication of her books, in the last decade and a half “Jacobs externalities” have been discussed in a large number of quantitative studies on the causes of economic growth. In our opinion though, the concept has become a catch-all expression for processes that economists do not really understand and cannot otherwise study with their traditional tools and methods. To understand how this came to be, one needs to step back and look at the recent history of mainstream growth theory.

Jacobs and New Growth Theorists⁴

The current popularity of Jacobs among economists is entirely attributable to the development of the so-called “New Growth Theory” (NGT) in the last two decades. In essence, NGT theorists argue that economic growth depends on the accumulation and spillovers of knowledge between individuals. While the figure most commonly associated with this intellectual corpus is Paul Romer (1994), Jacobs’ recent popularity among economists can be traced back to an influential article by future Nobel recipient Robert Lucas (1988).⁵ Lucas’ main aim in his piece on the “mechanics of economic development” was to assess the prospects

3. Ikeda’s comments can be found on the “Center for the Living City” blog: <http://www.centerforthelivingcity.blogspot.com/>

4. This section borrows heavily from Nowlan (1997).

5. Indeed, Lucas actually thanked her in the acknowledgements section of his piece for commenting on an earlier version.

of constructing a neoclassical theory of growth and international trade that would be consistent with the fact that the real world did not conform to theoretical predictions according to which the rates of economic growth and per capital levels of economic output should converge between countries, regardless of local conditions or government policy. In other words, mainstream economic theory could not explain unequal development, i.e., the undeniable fact that some countries were actually getting much richer than others, and often increasingly more so.

Lucas' main innovation was to incorporate human knowledge or skill levels in his model. In his approach, "human capital" has two main features. The first is that it can be acquired with some effort and it doesn't take more effort to acquire it when you have more of it. The second is that the economy as a whole becomes more productive when the average levels of human capital in an economy are raised. After having surveyed the literature on the conventional *internal effects* of human capital (i.e., the positive effects for individuals of acquiring valuable skills), Lucas then turned much more speculatively to its "*external effects*", i.e., the ways by which improvement in individual skills raised the productivity levels of other individuals without being adequately compensated. Nowlan (1997: 112) summarized Lucas' take on the matter in the following terms: "A person can exert some effort, pay some cost, and acquire more human capital. With a higher level of human capital – more skill or knowledge – this person's personal productivity and earnings associated with this productivity will be higher. The fact that this individual's higher level of human capital raises the average level in the economy and so the productivity of everybody is not, however, reflected in their personal earnings – it is a benefit outside and not accounted for by the earnings market – an "externality".

The Chicago economist, however, was at a loss to explain how these externalities worked in practice. His solution, it turns out, was to direct his readers to Jacob's "remarkable" *Economy of Cities*, which he reinterpreted in this light. After observing that "the theory of production contains nothing to hold a city together" (p. 38), he postulates that the only plausible explanation for places such as New York City's diamond and financial districts is that people are willing to cluster geographically and pay high rents to be near other people and learn from them. It must be pointed out, however, that Lucas says virtually nothing about the content of EC – nor, for that matter, on what Jacobs has to say about the processes conducive to knowledge spillovers – and that readers who weren't already familiar with Jacob's work probably assumed that the essence of her contribution was to argue that cities are places where learning occurs on a large scale. Furthermore, Lucas failed to turn Jacobs' insight into a formal model. As he would later explain: "She is not a trained economic theorist. She just doesn't know the basic technical tools. [She is] a kind of natural economist. It's true, I can't lift equations out of her books; but they're stimulating as hell" (quoted by Feeney 1993 in Allen 1997: 12).

Lucas' essay inspired a University of Chicago PhD student, Edward L. Glaeser, to try to assess the respective importance of various types of "dynamic externalities", i.e., knowledge spillovers from one person or group to another. In a seminal paper, Glaeser et al (1992) defined "Jacobs' externalities" by contrasting them with two other hypotheses. The first, known as the MAR (or Alfred Mar-

shall, Kenneth Arrow and Paul Romer) hypothesis, stresses the importance of spillovers between companies in the same sector. This mechanism is thought to apply in environments with little local competition, and therefore dominated by a few large players, so that firms are willing to share their knowledge. “Cluster” proponent Michael Porter (1990) is associated with the second hypothesis. In his view, knowledge spillovers in the same industry are crucial for urban economic growth, but are more likely to occur when there is fierce local competition between a large number of small firms. Jacobs is finally seen as supporting both competition and knowledge spillovers *between* industries, which are more likely to occur in an urban economy which is more diverse than average.

While the vast literature based on the Glaeser et al (1992) framework is sometimes deemed inconclusive, it seems fair to say that a majority of papers have come on Jacobs’ side. Duranton and Puga (2000: 53) thus assess that the “link between innovation and diversity seems fairly robust, so that highly innovative clusters cannot be bred in previously specialized environments”. According to critics, however, these studies rely on location quotients and similar measures of sectoral concentrations or diversity that are then correlated (or not) with “outputs” such as innovations or new product advertised in the technical literature, patent data, answers to questionnaires enquiring about the adoption/introduction of new technologies, or employment, income and productivity growth. Researchers then invoke localized knowledge spillovers when commenting upon their results, but these studies *do not* document them or even prove their existence (Breschi and Lissoni 2001a, 2001b; Hansen 2002). As Hansen (2002: 261) has argued, more meaningful analyses of the topic “would require disaggregated empirical studies of how knowledge in fact passes among persons”.

Perhaps these shortcomings can partly be explained by the fact that while Jacobs has much to say about the importance of local diversity for launching new businesses or for finding new uses for one’s skills, she doesn’t write very systematically about how individuals with different backgrounds actually learn from each other. Indeed, although she points out that a diversified local economy increases the possibility of new combinations, her main emphasis is on “new work [being] added to older work first, and then sometimes its new divisions of labor [being] added to other appropriate varieties of older work” (Jacobs 1969: 52). She lists the following examples as illustrative:

“A chest and wardrobe manufacturer is starting, for a fee, to analyze what is wrong with one’s household or office storage arrangements; a playground designer is starting to make and sell equipment for playgrounds and nursery schools; a sculptor is starting a line of jewelry; a designer of theater costumes is launching himself as a couturier...” (Jacobs 1969: 53-54).

One of Jacobs’ few allusions as to how knowledge “spills over” between individuals with different expertise is the following which, while interesting, is somewhat peripheral to the marketplace:

“Some artists of my acquaintance who were fighting a proposed expressway in New York decided, as part of the campaign, to paint a huge street banner. A banner of the weight and opacity desired, capable of withstanding the wind without being torn from its ropes, turned out to be impossible to construct until someone remembered an old-fashioned sailmaker in the second story of a loft nearby. He had never made a street banner before, but he made one now, and a good one. Here was a case in which the practitioner of the old work (to which a new purpose was, for the moment, added) was not the one who took the initiative. His work, rather was seen – by somebody who had a problem – as appropriate work upon which to add something more. In this instance, since the sailmaker produced only this one banner, the addition of new work was ephemeral. But much the same thing can happen on a more permanent basis” (Jacobs 1969: 69-70).

Perhaps the main reason for the paucity of detailed accounts of knowledge spillovers in diversified cities is the difficulty of tracking a large number of individuals who move frequently between different lines of work and/or regularly borrow ideas from fields other than the one they are currently working in. Building on a case study of individual inventors and a preliminary survey of disciplines ranging from cognitive psychology to business history, Desrochers (2001) further expands and elaborates on Jacobs’ insight by suggesting that, in the commercial realm, individuals find a new use for something they were familiar with, or incorporate something they were previously unfamiliar with into something they were already familiar with, through the following processes: 1) in multidisciplinary teams working within a firm; 2) when individuals add to, or switch, their product line; 3) when individuals move from one type of production to another; 4) when individuals observe a product/process in another setting and incorporate it into their main activity; and 5) when individuals possessing different skills and working for different firms collaborate with each other.

Be that as it may, as Glaeser put it: “Economists have decided that understanding spillovers is the key to understanding growth. And once you start thinking about my investment in knowledge spilling over into your productivity, Jacobs becomes a natural. That’s what returned economists to her” (quoted by Barber 1997: A7). But we think it is doubtful that most readers of Jacobs’s work unfamiliar with the NGT or various attempts at making it accessible to a larger audience have interpreted her work so narrowly. Indeed, while identifying knowledge as the key component to growth might be a comforting thought to academics, Jacobs’ work, especially *The Economy of Cities*, is nonetheless a powerful reminder of the observation usually attributed to Thomas Edison that invention is one percent inspiration and ninety-nine percent perspiration. In other words, while new ideas are crucial for any innovative venture, they are but a step(s) in a process that always requires much entrepreneurial work for which agglomeration economies are crucial.

Personal Assessment

Despite her initial lack of influence in development circles, Jacobs' public status ensured that her first two books on the topic were reviewed in a number of scholarly journals and discussed in several popular publications. Indeed, excerpts of *Cities and the Wealth of Nations* were published in influential periodicals such as the *Atlantic Monthly*, the *New York Review of Books* and Canada's *Saturday Night*. Detailed reviews and assessments of these criticisms can be found in Cichello (1989) and other chapters in Lawrence (1989), while many original critiques have been compiled and reprinted by Allen (1997). Our aim in this section is therefore not to examine in detail every objection that has ever been raised against Jacobs' economic theorizing, but rather to discuss briefly what we believe are her main strengths and weaknesses.

Perhaps the most obvious thing to be said about Jacobs is that she had little use for most experts in the fields of urban planning and economic theory, even though she eventually became one herself. While she always rejected all ideologies and labels – and was so dogmatic about this that she might as well be called the ultimate pragmatist – she strived to develop a coherent framework of her own. An outsider, she wrote confidently about various facts and intellectual perspectives and traditions, but often misinterpreted or misunderstood them,⁶ and was not always right when she ventured into making specific predictions.⁷ An author who often stated that she was simply going where her analysis led her, she seemed to have been unable to question the basic economic implications of some of her stances, such as the fact that zoning and land-use restrictions or her opposition to replacing low-rise buildings with high-rise apartment towers, were actually driving up the cost of housing and preventing young families and people with lesser means from moving into the more central locations she cherished. A debunker of fashionable ideas, she sometimes fell for a few debatable concepts.⁸

As a social analyst, Jacobs was certainly original in terms of her inductivist methodology and her use of cities as meaningful economic units and the “open-ended types of economies in which our open-ended capacities for economic creation are not only able to establish “new little things” but also to inject them into everyday life” (1984: 224-225). In our opinion, her footing is firm in the

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6. For instance, the archeologist Bender (1975) points out that whatever little data Jacobs uses while discussing the neolithic settlement of Çatal Hüyük is incorrect, while the economist Michael Walker (1984) points out that Jacobs misunderstands the concept of stagflation and is wrong in assuming that the phenomenon is inexplicable in the context of modern economic theory.
 7. While correct in predicting the demise of the Soviet Union in the opening pages of *Cities and the Wealth of Nations*, Jacobs believes that the American economy will also suffer a similar fate. Overall, however, there is no denying the fact that Jacobs' work withstood the test of time much better than most other contemporary pieces of economic writings.
 8. Jacobs (2000) thus endorsed biomimicry, a movement for the development of biodegradable products based on imitating the chemistry of nature at life-friendly temperatures. But the idea of learning from nature is as old as human creativity. As the Greek philosopher Democritus observed, arts such as weaving, building houses, and singing were discovered as humans imitated and became the pupils of animals (quoted by Long 1991: 850).

former, but perilous in the latter.

Jacobs described her approach to understanding social reality as “seek[ing] truth from facts”, a motto she borrowed from Deng Xiaoping (Allen 1997). She elaborated on her method in the last chapter of *Death and Life*, in a personal letter which was later reprinted in both Lawrence (1989) and Allen (1997), and through the voice of her character Kate in *Systems of Survival*. While this is not the place to discuss the scientific status of induction, suffice it to say that there have been sophisticated cases on its behalf (Holland et al 1993) and that Jacobs used it purposefully in the context of “problems of organized complexity” where it is the norm. It could also be added that, despite her lack of formal training, Jacobs’ diversified private sector employment history and the numerous topics she covered and discussed as a journalist and government writer gave her a broader and more concrete experience of economic life than many academic economists.

On the other hand, it seems much harder to defend her position that cities are quasi-organisms with lives of their own. After all, if cities are undoubtedly nexus of trade that greatly facilitate injecting improvisations into daily life, they do not arise out of thin air and are only sustained through individual human actions that are, in turn, sometimes based on local transactions and affected by local conditions, but often also by transactions and institutional arrangements at a much greater geographical scale that she failed to address adequately in her work. How else then could one explain the recent revival and/or development of once-highly specialized cities such as Manchester, Essen and Seattle, or the recent difficulties of the highly-diversified Tokyo region?

And yet, despite her shortcomings and the fact that she was often restating some eternal truths that might have been forgotten or neglected by most economists at the time of her writings (such as the importance of entrepreneurship and business start-ups, the fact that development is a process rather than a collection of capital goods, or the opportunity costs of government spending programs), there can be no doubt that, by any standards, Jane Jacobs was an extraordinarily creative author who suggested numerous original and plausible insights. For instance, she was the first author to devise a scenario according to which one could be a hunter-gatherer and live in a city and to suggest that agriculture might have been developed in cities rather than the countryside (Bender 1975). Keeley (1989), giving credit to the Canadian economist Marcel Côté, also points out that Jacobs differed from her predecessors by detailing the emergence of new growth in particular situations and by emphasizing the *multiplying* effect of import replacement. There can also be little doubt that her economic case on behalf of local diversity added to previous arguments to that effect and that, as the economist Peter Albin pointed out, there were no other dynamic structural theories of technical change similar to Jacobs’ “anywhere in the literature” (quoted by Warsh 1992: 398). As Callahan and Ikeda (2003, non-paginated) have pointed out, Jacobs’ gaps in her knowledge of economic theory and economic thought ultimately “enabled her considerable powers of observation, intelligence, and good common sense to paint the nature of social processes in ways that are for economists in particular fresh and perhaps even inspiring”.

Conclusion

While a case can be made that Jacobs' development writings could have benefited from detailed criticisms by some experts (Bauer (1985) being perhaps the prime example in this respect), the passage of time nonetheless suggests that the "amateur" Jacobs was often right when credentialed experts were not. Paradoxically, her inductivist and commonsensical approach to economic development, along with her fearlessness in crossing academic boundaries and bypassing social scientific methods, made her a radical thinker that often forced her open-minded readers to rethink some long-held assumptions and/or consider new problems.

The anthropologist Marshall Sahlins once described interdisciplinary research as "the process by which the unknowns of one's own subject are multiplied by the uncertainties of some other sciences" (quoted by Cronon 1983: ix). And yet, we suggest that Jacobs' economic work clearly demonstrates the benefits of interdisciplinary inquiries by lone scholars who can afford to sit back, digest and combine in original ways the information and suggestions provided by narrowly-focused researchers. While their synthesis might not always be right on every point, they are more likely to shed new light on old problems and to suggest original departures. Jane Jacobs as a development theorist certainly achieved this and, as such, her work deserves a closer, albeit critical, look.

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