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Urban Pooling

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INTRODUCTION

The body of scientific knowledge focused on cities is extensive and rapidly expanding. Academic contributions identifying urban visions or urban paradigms are plural and diversified. There are three main paradigms which suggest the perspective from which the city should be studied and depict how the city would be conceptualized in the future. Some think that cities will leverage the power of knowledge as the key economic driver for urban development and envision the city as a marketplace. Others think that technology will be the main factor shaping the destiny of cities in the future and envision the city as a platform. Finally, the literature adopting a nature-based perspective envisions the city as an ecological system or environment.

This Article argues that all three visions or paradigms lack a rights-based approach and therefore are not able to explain, nor govern, many of the social and economic phenomena generating conflicts at the local level. They, for instance, do not tackle the issue of divisions between cities and regions, urban and rural areas, nor do they make an attempt to face the questions raised by power asymmetries and wealth redistribution within a city. In order to overcome the shortcomings of the three main visions one needs to take into account a fourth vision developed by the "right to the city" literature[1] and

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1. Henri Lefebvre, *The Right to City*, *in* WRITINGS ON CITIES 147 (Elenore Kofman & Elizabeth Lebas eds., trans., 1968) first articulated the idea of the "right to the city" which was then translated into efforts by progressive urban policymakers around the world to give more power to city inhabitants in shaping urban space. *See generally* DAVID HARVEY, REBEL CITIES: FROM THE RIGHT TO THE CITY TO THE URBAN REVOLUTION (2012); EDWARD W. SOJA, SEEKING SPATIAL JUSTICE (2010); David Harvey, *The Right to the City*, 27 INT'L J. URB. & REG'L RES. 939 (Susan Clark & Gary Galle eds., 2003); Mark Purcell, *Excavating Lefebvre: The Right to the City and its Urban Politics of the Inhabitant*, 58 GEOJ. 99 (2002). *See also* WORLD URB. F., WORLD CHARTER ON RIGHT TO THE CITY (2004), http://abahlali.org/files/WorldCharterontheRighttotheCity-October04.doc [https://perma.cc/3G8R-QQ8C]; EUROPEAN COUNCIL OF TOWN PLANNERS, THE NEW CHARTER OF ATHENS (2003), http://www.ceu-ectp.eu/images/stories/download/charter2003.pdf [https://perma.cc/9PTS-MZRY]. The "right to the city" has also been incorporated into Brazil's Constitution and City Statute and more recently in the New Urban

reconceive the city as a commons[2] to implement that vision. This approach envisions the city as an infrastructure enabling city inhabitants' right to equal access to, management of, or even ownership of some urban essential resources and ultimately the city.[3] This reconceptualization requires however embedding "urban pooling" as a design principle of a new economic, legal, and institutional framework for the city. It therefore implies the recognition of the right of multiple urban and local social actors, in particular city inhabitants, civil society organizations, and knowledge institutions like universities, to be part of partnerships with the public and the private sector to run or own urban assets or resources.[4]

The aim of urban pooling is to deploy cooperative actions, practices, institutions, and ventures to share existing urban resources, collaborate to generate new resources, and coordinate in using urban networks or producing public services.[5] Urban pooling by mixing and matching urban resources dispersed across the city expands capacity of these resources and the city as whole.[6] Urban pooling blends individual or organizational capabilities and legal authorities that different urban actors hold and use in distinct and separate realms or ways. It combines expertise with local authority. It works across economic and institutional boundaries and thrives in interstices and voids in the delivery of services and access to essential urban resources.[7]

Agenda, the outcome document agreed upon at the Habitat III cities conference in Quito, Ecuador, in October 2016. *See* C.F. arts. 182-83 (Braz.); E.CID., Lei No. 10.257, de 10 de Julho de 2001, DIÁRIO OFICIAL DA UNIÃO [D.O.U.] de 11.7.2001 (Braz.); U.N. CONF. ON HOUS. & SUSTAINABLE URB. DEV., *New Urban Agenda Adopted at Habitat III* (Oct. 21, 2016), https://unhabitat.org/new-urban-agenda-adopted-at-habitat-iii/ [https://perma.cc/TH35-SQ5P].

2. Sheila Foster & Christian Iaione, *The City as Commons*, 34 YALE L. & POL'Y REV. 281 (2016).

3. Christian Iaione, *Governing the Urban Commons*, 7 ITALIAN J. PUB. L. 170 (2015).

4. This is the quintuple helix governance model. *See* Christian Iaione & Paola Cannavò, *The Collaborative and Polycentric Governance of the Urban and Local Commons*, 5 URB. PAMPHLETEER 29 (2015).

5. Christian Iaione, *The Co-City: Sharing, Collaborating, Cooperating, and Commoning in the City*, 75 AM. J. ECON. & SOC. 415 (2016).

6. Christian Iaione, *The Tragedy of Urban Roads: Saving Cities from Choking, Calling on Citizens to Combat Climate Change*, 37 FORDHAM URB. L.J. 889 (2009).

7. Pooling may be considered part of a broader institutional shift at the urban as much as the regional, national, and international level toward networks of governmental actors. *See* CLARENCE N. STONE, REGIME POLITICS: GOVERNING ATLANTA 1946-1988 at 222-29 (1989) (rejecting a model of urban governance oriented around "the difficulty of maintaining a comprehensive scheme of control" and arguing that "[i]n a world of diffuse authority, a concentration of resources is

Part I introduces and articulates the three current visions of the city and the metaphors used to describe them. From an interdisciplinary perspective, this Part of the Article then examines some complications and emerging key issues that deserve further reflection. In Part II, the Article outlines a fourth vision of the city, the rights-based vision, shedding light on the distinctions between two models of this rights-based approach: the rebel city approach[8] and the co-city approach.[9] The latter however might be considered an attempt to bridge the fourth vision with the visions of the city introduced in the first part of the Article. It does so by construing the concept of pooling as a concept cutting across the three main streams of the literature on the commons. Part III focuses on the key elements that define the commons and the commoning process or cooperation they imply in order to better define this fourth urban paradigm and in particular the approach of the co-city. It reviews the main bodies of literature that are key to conceptualizing the concept of pooling as a form of cooperation that encompasses both sharing of congestible resources to avoid scarcity and collaboration around non-congestible, constructed resources to generate abundance. Building on the existing literature of a particular subset of studies on infrastructure commons, the concept of pooling is extracted from observing how infrastructure commons, by paying more attention on demand-side strategies, are able to expand or utilize the idle capacity of particular infrastructure to avoid congestion and at the same time generate agglomeration economies. The concept of urban pooling builds on these insights to better define the main features of a co-city. The co-city as an urban vision rooted in pooling is considered the most economically and politically viable way to implement a rights-based city. It embraces the city as a commons framework[10] that ultimately

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attractive. The power struggle concerns, not control and resistance, but gaining and fusing a capacity to act-power to, not power over."); ANNE-MARIE SLAUGHTER, A NEW WORLD ORDER 1-3 (2005) (arguing networks of government officials, such as police investigators, financial regulators, and legislators are "key feature of world order in the twenty-first century"); Clayton P. Gillette, *The Conditions of Interlocal Cooperation*, 21 J.L. & POL. 365 (2005) (proposing changes to legal and institutional structure to facilitate cross-subsidies from one locality to another); Daphna Renan, *Pooling Powers*, 115 COLUM. L. REV. 211, 219 (2015).

   8. *See* HARVEY, *supra* note 1.

   9. "The collaborative city is a commons-based city model. What differentiates the sharing city from the collaborative city is the methodological approach: the 'co-city' protocol. The protocol, developed and experimented in five cities in Italy so far, is articulated in three main phases: mapping, experimenting and prototyping." Foster & Iaione, *supra* note 2, at 345. *See also* Iaione, *supra* note 5.

   10. The city as a commons concept relies upon "an alternative vision of city governance in which heterogeneous individuals and institutions can collaborate

envisions the city as an infrastructure open and accessible to many albeit managed and under some circumstances enabling social and economic pooling to manage some of its assets and services.

The conclusion proposes the idea of "the right to pool" as a means to build a body of urban law and policy advancing the right to the city with a commons-oriented approach. It highlights the importance of the role of universities as engaged knowledge institutions in developing research frameworks to enable local communities and city governments to pool their efforts and training programs for young professionals willing to build a career in urban law and policy.

I. A NEW URBAN AGE?

Cities are changing their role, morphology, and structure since large-scale urbanization has become a global phenomenon.[11] The U.N. Urbanization Report showed that for the first time in human history more people live in urban areas than in rural areas, from a global standpoint.[12] This has revived interest in the study of the city and triggered a sort of race to define the vision that will represent the dominant paradigm for the city of tomorrow. This Part of the Article will set out the three main emerging visions of the city and the three main complications that they create.

A. Visions of the Twenty-First Century City

The three main emerging visions leverage different design elements. The first leverages proximity of knowledge or culture bearing entities or human beings as a means to advance urban prosperity. The second vision pays more attention to the environmental sustainability of human settlements such as cities. The third instead is putting more and more emphasis on the technological and digital advancements that cities will need tomorrow, if not already, in order to face the challenges of this new urban age.

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together to co-create or co-govern the city, or parts of the city, as a common resource . . . [on the basis of] the conceptual pillars of an 'urban collaborative governance' which conceives of the role of the state according to the design principles . . . [of sharing, collaboration and polycentrism] and introduces a strong element of social and economic equity or inclusion." *Id.* at 335.

11. NEIL BRENNER, LA EXPLOSIÓN DE LO URBANO [THE EXPLOSION OF THE URBAN] (ARQ ed., 2016).

12. Dep't of Econ. & Soc. Aff., Population Div., World Urbanization Prospects: The 2014 Revision Highlights, at 1, U.N. Doc. ST/ESA/SERA.A/352 (2014).

1.   *The Knowledge-Based City: The City as a Market*

For both theories of urban agglomeration[13] and the creative class,[14] the race to attract human capital is an attempt to improve the urban environment as part of a broader virtuous dynamic. The presence of knowledge institutions (i.e. schools, universities, cultural foundations) attracts students and nurtures the presence of skilled people. This creates a larger customer base that in turn attracts new businesses and creates new markets.[15] As a McKinsey report emphasized, "cities are instant markets for many types of business. As businesses cluster in cities, jobs are created and incomes rise."[16] Growing cities benefit from agglomeration effects that enable industries and service sectors to have higher productivity than in rural settings.[17]

The economic opportunity created by the growth of cities is not only about consumption. There is also an infrastructure opportunity, created by the increasing demand of housing and transportation in developing cities.[18] The growth of cities brings both opportunities and challenges. The case of megacities, that have started to exhaust their economies of scale and are experiencing slower growth both in their population and per capita GDP, shows the advantages of

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13. On the innovative potential of cities, see generally PAUL BAIROCH, CITIES AND ECONOMIC DEVELOPMENT: FROM THE DAWN OF HISTORY TO THE PRESENT (Christopher Braider trans., 1988); JANE JACOBS, THE ECONOMY OF CITIES (1969). On urban agglomeration economies, see Jeffrey C. Brinkman, *Congestion, Agglomeration and the Structure of Cities*, 94 J. URB. ECON. 13 (2016); Giles Duranton & Diego Puga, *Micro Foundations of Urban Agglomeration Economies*, *in* 4 HANDBOOK OF REGIONAL AND URBAN ECONOMICS 2063 (J. Vernon Henderson & Jacques-François Thisse eds., 2004); Edward L. Glaeser, Jed Kolko & Albert Saiz, *Consumer City*, 1 J. ECON. GEOGRAPHY, 27 (2001).

14. Ake E. Andersson, *Creativity and Regional Development*, 56 PAPERS IN REG'L SCI. 5 (1985); Marcus Berliant & Masahisa Fujita, *Knowledge Creation as a Square Dance on the Hilbert Cube*, 49 INT'L ECON. REV. 1251 (2008); Richard Florida, *Cities and the Creative Class*, 2 CITY & CMTY. 3, 7 (2003); Edward L. Glaeser, *Review of Richard Florida's The Rise of the Creative Class,* 35 REG'L SCI. URB. ECON. 593 (2005).

15. MCKINSEY GLOBAL INST., URBAN WORLD: THE GLOBAL CONSUMER TO WATCH 83 (Apr. 2016), http://www.mckinsey.com/global-themes/urbanization/urban-world-the-global-consumers-to-watch [https://perma.cc/6FVW-CRNG].

16. *Id.*

17. MCKINSEY GLOBAL INST., URBAN WORLD: MAPPING THE ECONOMIC POWER OF CITIES 10-11 (Mar. 2011), http://www.mckinsey.com/global-themes/urbanization/urban-world-mapping-the-economic-power-of-cities [https://perma.cc/2ARL-FGAH]. The ecological sustainability of life in a high-density city challenges the mainstream idea of the life in the country as a more environmental sustainable life. *See generally* DAVID OWEN, GREEN METROPOLIS 1-39, 147-99 (2010).

18. MCKINSEY GLOBAL INST., *supra* note 17, at 24.

decreasing the economic and physical social scale of urban areas.[19] Moreover, the challenge to manage the increasing complexity that the expansion of cities brings[20] often falls on the shoulders of city governments, which are not always prepared to cope with this challenge,[21] and might have scarce resources.[22]

2.   *The Sustainable City: The City As An Ecological System or Environment*

There is a large body of academic literature that reflects the vision of cities in the future from a nature-based perspective or an environmental standpoint.[23] This literature follows two different approaches that conceptualize sustainability differently: the eco-city and the city as an ecosystem.

The eco-city approach considers how cities can achieve a better environment by reducing air, water, and soil pollution, or developing efficient ways to deal with waste generation.[24] In contrast, the ecosystem approach is concerned with how biophysical and socio-economic processes are interconnected in the urban environment, and therefore it aims at investigating how cities can achieve sustainable development.[25] The idea of the eco-city focuses on the city as a sustainable (and perhaps) resilient place.[26] The eco-city and sustainable city literature sees cities as an ecological environment, a system of natural resources.

The eco-urbanism approach highlights the potential of the city to become a sustainable, eco-friendly space. The idea of the eco-city originally emerged out of grassroots environmental movements in the 1960s and 1970s as an approach to urban development respectful of

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19. *Id.* at 12.

20. *Id.*

21. *Id.*

22. EDWARD GLAESER, THE TRIUMPH OF THE CITY (2011).

23. Elisabeth Rapoport, *Utopian Visions and Real Estate Dreams: The Eco-City Past, Present and Future*, 8 GEOGRAPHY COMPASS 137 (2014).

24. THE SUSTAINABLE CITY IX: URBAN REGENERATION AND SUSTAINABILITY (N. Marchettini ed., 2014).

25. Ramin Keivani, *A Review of the Main Challenges to Urban Sustainability*, 1 INT'L J. URB. SUSTAINABLE DEV. 5 (2009).

26. The concept of resiliency takes into account the interconnection between different elements: the social, economic, and the ecological. The idea of a resilient city stresses the capacity of a city to react to a disaster or ecosystem changes. *See, e.g.,* Craig Antony Arnold, *Resilient Cities and Adaptive Law,* 50 IDAHO L. REV. 245, 246-47 (2014); THE RESILIENT CITY: HOW MODERN CITIES RECOVER FROM DISASTER (Lawrence J. Vale & Thomas J. Campanella eds., 2005); Robin Kundis Craig & Melinda Harm Benson, *Replacing Sustainability,* 46 AKRON L. REV. 841, 848 (2013).

ecological limits.[27]   The idea of the eco-city is to change the urban
development trajectory by incorporating criteria designed to instill
ecological balance in city growth.   This notion has been used to
describe a wide range of approaches aimed at turning cities into
ecologically sustainable places, from small scale to large-scale
projects, such as the construction of entirely new cities.[28]   One
example is Eco Town[29] in the United Kingdom.   The idea of the
sustainable city also led to the development of an eco-city utopia,
which has been applied to cities such as Taijin,[30] the Dongtan City, or
Masdar City.[31]

The idea of the city as an ecological space, outlined by the legal
scholar Sheila Foster, builds on recent urban ecology literature and
understands the city as an ecosystem, in which social, biological, and
physical processes interact and shape the urban environment.[32]   One
can imagine the city as an ecosystem involving the interaction
between social, economic, and physical aspects of the city.   The first
school of thought considers the city as an ecological place, which

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27. Rapoport, *supra* note 23, at 137.

28. *Id.*

29. Eco Town is a policy program launched by the Labour government in 2007
with the aim of building government-sponsored ecological buildings, with the
ultimate goal of creating low carbon environments. *See 'Eco-towns' Target Doubled
by* PM, BBC NEWS (Sept. 24, 2007), http://news.bbc.co.uk/2/hi/uk_news/
politics/7010888.stm [https://perma.cc/32H2-QHC7].   In 2015 the coalition
government proposed to cancel the program. PROPOSED CANCELLATION OF ECO-
TOWNS PLANNING POLICY STATEMENT 1, DEP'T FOR CMTYS. & LOC. GOV'T (Mar. 5,
2015),   https://www.gov.uk/government/publications/proposed-cancellation-of-eco-
towns-planning-policy-statement-1-determination-on-whether-a-strategic-
environmental-assessment-is-required   [https://perma.cc/GMT4-UBYE].   "The
Government has set a target to build 240,000 new homes per annum by 2016 and to
reduce CO2 emissions by 80 per cent below 1990 levels by 2050 . . . . It is the
Government's view that eco-towns should be exemplar projects that encourage and
enable residents to live within managed environmental limits and in communities that
are resilient to climate change. ECO-TOWNS: A SUPPLEMENT TO PLANNING POLICY
STATEMENT 2, DEP'T FOR CMTYS. & LOC. GOV'T (2009), https://www.gov.uk/
government/uploads/system/uploads/attachment_data/file/7773/pps-ecotowns.pdf
[https://perma.cc/2PT9-JWFW].

30. Taijin is a collaborative project between the Chinese and Singaporean
government that will house 350,000 people in a low-carbon, green environment
around half the size of Manhattan by 2020. *See* Gaia Vince, *China's Eco Cities*, BBC
FUTURE (May 3, 2012), http://www.bbc.com/future/story/20120503-sustainable-cities-
on-the-rise [https://perma.cc/NTU2-TD2N].

31. The Masdar City Project, to build the first eco city in the world, is part of the
Masdar initiative for clean energy. *See Our Story*, MASDAR INITIATIVE,
http://www.masdar.ae/en/masdar/our-story [https://perma.cc/M8HK-RH3X].

32. Sheila Foster, *The City as an Ecological Space: Social Capital and Land Use,*
82 NOTRE DAME L. REV. 527, 532 (2006).

draws more on urban ecology,[33] a discipline that, as the geography scholar James Evans outlines, is based on the awareness that cities are increasingly interconnected from an economic and environmental standpoint and their impacts have grown from local or regional phenomena to global in scale.[34] Recent urban ecology literature has begun to recognize the complexity of interactions in the city between ecological, social, and physical processes, overcoming the study of the ecology in cities in favor of the study of ecology of cities.[35] Foster's contribution on the city as an ecological space[36] focuses on the relationship between urban land use law and policies and social capital. Understanding the impact of the policy choices about physical space on the social and economic networks of the community (the community's social capital) requires a rethinking of management and regulation of the urban commons.[37] Land use governance might revitalize regions, cities, and neighborhoods, by taking into account existing social networks of individuals and entities that have a common stake in the resources.[38] Land use governance boundaries might not correspond to the geographic neighborhood. This is a common feature in cities where social networks might be geographically dispersed or mobile, but still rely upon a resource in the neighborhood itself.[39]

3.   The Tech-Based City: Smart Cities, Sharing Cities, and the City as a Platform

The vision of a smart city relies heavily on the introduction of new technologies in the city and therefore tends to envision it as a vastly populated physical and virtual technological platform.[40] The idea of a

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33. James Evans, *Resilience, Ecology and Adaptation in the Experimental City*, 36 TRANSACTIONS OF THE INST. OF BRITISH GEOGRAPHERS 223, 227 (2011).

34. *See generally* Mark J. McDonnell, *Linking and Promoting Research and Practice in the Evolving Discipline of Urban Ecology,* 1 J. OF URB. ECOLOGY 1, 1-6 (2015).

35. Foster, *supra* note 32, at 539.

36. *Id.*

37. *Id.*

38. *Id.* at 578-80.

39. Foster explains that this is the case of the community gardens, were a significant percentage of garden's members live outside the community where the garden is located. *Id.* at 542.

40. In order to respond to the complex challenges of socio-economic development and quality of life posed by the contemporary urban condition, cities should develop digital infrastructure capable of offering citizens high connectivity, and disseminate smart devices, sensors, and other kind of tools which can enable real time data management and processing throughout urban spaces. Mark Deakin, *Smart Cities: The State of the Art and Governance Challenge,* 1 TRIPLE HELIX, 4 (2014).

smart city emerged as a strategy to mitigate problems generated by urban growth and uncontrolled urbanization processes.[41] Among the most interesting examples of smart cities are Amsterdam[42] and Barcelona,[43] two cities that are investing both in technological development and on being "sharing cities."[44] The concepts of a smart city and a sharing city[45] often overlap.[46]

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41. STEPHEN GOLDSMITH & SUSAN CRAWFORD, THE RESPONSIVE CITY: ENGAGING COMMUNITIES THROUGH DATA-SMART GOVERNANCE (2014). Among the projects developed by the city of Chicago, a particularly successful one is the Park District's beach water quality inspection process, a pilot project of an analytical model. The goal of this tool is to predict which beaches may need to close based on the likeliness of e. coli contamination. Sean Thornton, *Taking Predictive Analysis to the Beach,* DATA–SMART CITY SOLUTIONS, THE ASH CENTER FOR DEMOCRATIC GOVERNANCE AND INNOVATION, HARV. KENNEDY SCH. OF GOV'T (June 20, 2016), http://datasmart.ash.harvard.edu/news/article/taking-predictive-analytics-to-the-beach-855 [https://perma.cc/MX5Y-LASC]. Another example could be the open grid, launched by the Chicago's Department of Innovation and Technology, a map-based application that provides residents with a way to visually understand complex municipal data. Sean Thornton, *Open Grid for Smart Cities,* ASH CTR. FOR DEMOCRATIC GOVERNANCE AND INNOVATION, HARV. KENNEDY SCH. OF GOV'T (June 20, 2016), http://datasmart.ash.harvard.edu/news/article/opengrid-for-smart-cities-842 [https://perma.cc/XFC9-X26G].

42. The Amsterdam Metropolitan area developed "Amsterdam Smart City," an innovation platform which is constantly challenging businesses, residents, the municipality, and knowledge institutions to test innovative ideas and solutions for urban issues. *See* AMSTERDAM SMART CITY, https://amsterdamsmartcity.com/ [https://perma.cc/2BGX-TFPK].

43. Among the projects that Barcelona Smart city is developing, the public contest App and Culture, looks for ideas for mobile apps that enable and encourage people's access to culture, or that help professionals in the industry develop their work. *See* BARCELONA CIUTAT DIGITAL, http://smartcity.bcn.cat/en/bcn-smart-city.html [https://perma.cc/4HHG-84Q2].

44. *See* Anna Bergren Miller, *Amsterdam is Now Europe's First Named "Sharing City,"* SHAREABLE (Feb. 24, 2015), http://www.shareable.net/blog/amsterdam-is-now-europes-first-named-sharing-city [https://perma.cc/4HAB-U8RF]. See also the research conducted by Collaborative Consumption on the consumer potential for the sharing economy in Amsterdam, Harmen Van Sprang, *Amsterdam's Europe's First "Sharing City,"* COLLABORATIVE CONSUMPTION (Feb. 4, 2015), http://www.collaborativeconsumption.com/2015/02/04/amsterdam-europes-first-sharing-city/ [https://perma.cc/H7Z7-XQQK]; s*ee also Amsterdam Exploring the Sharing City*, ELLEN MACARTHUR FOUND., https://www.youtube.com/watch?v=wwQZhMWg9iw [https://perma.cc/2B7K-33DE]. For Barcelona sharing city, see *Barcelona, Spain*, SHAREABLE, http://www.shareable.net/cities/barcelona-spain [https://perma.cc/3TVM-98SH]. *See also* Ann Marie Utratel, *The Common Collaborative Economy Explodes in Barcelona*, P2P FOUND. BLOG (May 17, 2016), https://blog.p2pfoundation.net/commons-collaborative-economy-explodes-barcelona/2016/05/17 [https://perma.cc/E3AT-4C88].

45. The vision of the sharing city—at least as initially laid out—was a city that relied on mutual solidarity and social justice. Shareable, a well-known organization in the field of sharing, built a sharing cities network that connects urban activists

The transformative impact of the technological sharing economy platform on cities has been addressed by Nestor Davidson and John Infranca[47] from a legal perspective. They observe that the urban character of the sharing economy is attributable[48] to the physical and social conditions of the urban environment[49] that facilitate the diffusion of sharing economy platforms. These platforms allow city residents to share the idle capacity of some of their assets (e.g., clothing, tools, or a spare bedroom) with other residents living in close proximity to them, or with tourists looking for accommodation.[50]

They further suggest that the rise of the sharing economy can also be understood as a reaction to the current landscape of urban governance.[51] The authors observe how[52] the sharing economy affects the dynamics of local politics and suggest that local governments must consider the potential of the sharing economy as a tool for redistribution, embracing an adaptive approach that would provide a differentiated regulatory strategy for the sharing economy in city neighborhoods.[53]

The city of Seoul and the proactive role of the Seoul metropolitan government in enhancing the sharing economy in the city through the Sharing City project is an interesting example of sharing cities. Initiated in 2012, the Sharing City project promotes and supports various sharing economy initiatives such as sharing economy apps, enterprises, and start-ups. In the first two phases of the project (2012-2013) the government provided startups, companies, and city residents with support to develop sharing services.[54] The city enacted an ordinance, the "Seoul Metropolitan Government Ordinance on

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worldwide. *Sharing Cities,* SHAREABLE (Feb. 19, 2016), http://www.shareable.net/sharing-cities [https://perma.cc/7DZH-YRZP].

46. *See   Sharing   Cities*,   SHARING   CITIES,   http://www.sharingcities.eu/ [https://perma.cc/RJ4C-ACUY]; *see also Smart City Challenge: The Sharing Economy, User-Focused Mobility, and Accessible Transportation*, U.S. DEP'T OF TRANSP.,   https://www.transportation.gov/smartcity/infosessions/sharing-economy [https://perma.cc/3VZC-M9QZ].

47. Nestor Davidson & John J. Infranca, *The Sharing Economy as an Urban Phenomenon,* 34 YALE L. & POL'Y REV 215, 223-38 (2016).

48. *Id.* at 232.

49. *Id.* at 223.

50. *See generally* Michèle Finck & Sofia Ranchordás, *Sharing and the City*, 49 VAND. J. TRANSNAT'L L. 1299 (2016).

51. Davidson & Infranca, *supra* note 47, at 238.

52. *Id.* at 274.

53. *Id.* at 276.

54. Foster & Iaione, *supra* note 2, at 343-45.

the Promotion of Sharing[55] designating sharing organizations and enterprises, providing a Sharing Promotion Fund, and organizing sharing schools and communication activities.[56]   In a later phase (2014-2015), with the aim of fostering the sharing city in communities, the municipality encouraged citizens to develop their own applications using public data.[57]   In order to encourage entrepreneurialism and education of young residents to share, the government organized sharing schools and startup schools.[58] One of the first steps was the creation of the Sharing City Team and the establishment of an international advisory group under the Social Innovation Bureau by the Seoul Metropolitan Government.[59] The government supported the creation of new sharing businesses and starts up, including the sharing of cars and car parking,[60] children's

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55. The model of the sharing city and the case of Seoul has been analyzed. Foster & Iaione, *supra* note 2. For a reconstruction with updates, see Monica Bernardi, *"Sharing City, Seoul" 2016: State of the Art and News*, LABGOV (Dec. 8, 2016), https://www.labgov.it/2016/12/08/sharing-city-seoul-2016-state-of-the-art-and-news/ [https://perma.cc/3VVW-GN5U].

56. The Seoul Metropolitan Government pushed a lot in terms of dissemination and information of the policy among citizens, through meetings, seminars, conferences, and campaigns aimed at sharing practices. The events are organized by Sharehub, managed by Creative Commons Korea, a very important structure in the development of the project. Bernardi, *supra* note 55.

57. Federico Guerrini, *How Seoul Became One of the World's Sharing Capitals*, FORBES (May 25, 2014), http://www.forbes.com/sites/federicoguerrini/2014/05/25/how -seoul-became-one-of-the-worlds-sharing-capitals/ [https://perma.cc/WQP9-Y8A7].

58. Cat Johnson, *Sharing City Seoul: A Model for the World*, SHAREABLE (June 3, 2014), http://www.shareable.net/blog/sharing-city-seoul-a-model-for-the-world [https://perma.cc/5TCG-JYMJ].

59. Bo-ra Jung, *Seoul Draws a City Through Sharing,* CREATIVE COMMONS KOREA, https://www.scribd.com/doc/304751600/Seoul-Draws-a-City-Through-Sharing -English [https://perma.cc/6RV8-M7RV].

60. Companies such as Socar and Greencar foster the sharing of 564 car locations with over 1000 cars. *See* Johnson, *supra* note 58.

school clothes,[61] meals,[62]—with the purpose of establishing a social dining practice—and spare rooms.[63]

B. Complications

There are at least three categories of complications that can be used as a point of departure for reflecting on a renewed conception of the city or the urban. Thinking about the city today requires an expansive reasoning which takes into account a) the changing form and structure of the city and its relationships with surrounding human settlements, b) the complex relationship between rural human settlements and urban human settlements, and c) equality concerns within cities.

In terms of the first complication, looking at the city today, one can easily argue that its shape is quite different from what it was at the beginning of the twenty-first century. Urban theorist Neil Brenner and sociologist Christian Schmid have questioned the mainstream idea of the urban,[64] and of the urban age, as a chaotic conception[65] that does not align with empirical realities and is based on a theoretical conception of the urban and urbanization. The way to emerge from this narrow view of the urban is to understand that the term urban refers not to a form, but rather to a process that implies socio-spatial transformation that is polycentric, dynamic, and variable.[66] The shape and size of the city is changing. The analysis of challenges[67] and patterns of growth at the metropolitan level suggests a re-consideration of the main criteria for defining the political and

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61. The application, Kiple, is being developed for this purpose and is based on the exchange of kids' clothes. KIPLE, http://www.kiple.net/ [https://perma.cc/4GY2-9ZJX].

62. Different kinds of food and kitchen sharing are proliferating in Seoul, from experiences of food sharing as "everyone's refrigerator" to apps for social dining such as Dooridobap, that connects and helps students make meal plans, or Neighborhood Village Kitchen, supported by the local government, where neighborhood residents might share meals. *Introducing Food Sharing Cases in Seoul*, SEOUL SHARE HUB (June 23, 2016), http://english.sharehub.kr/food-sharing-cases/ [https://perma.cc/VW4L-GEQ9].

63. Sharing of spare rooms is promoted for both tourism and for social reasons, for instance providing students with cheap accommodation with the students helping their landlords in everyday life. *See* Guerrini *supra* note 57.

64. Neil Brenner & Christian Schmid, *Toward a New Epistemology of the Urban?*, 19 CITY 151-82 (2015).

65. *Id.* at 163-65.

66. *Id.* at 165-66.

67. Congestion, institutional fragmentation, ill-adaptation, and need for infrastructures—among the others. OECD, *Cities for Citizens: Improving Metropolitan Governance* (2001), http://www.ocs.polito.it/sostenibilita/dwd/oecd_gov-2001.pdf [https://perma.cc/9Q6V-KZU8].

administrative boundaries of cities.[68] In the United States legal tradition for instance, regionalism or metropolitan regionalism are based on the idea of considering the scale of socioeconomic interdependencies within an urban agglomeration, when establishing a governance mechanism or an institution.[69] Foster and Davidson also advance an argument for regionalism to temper the strong localist tendency of the conventional view of local governance,[70] supported by the observation that mobility choices of individuals are regional in scale.[71]

The second complication raised by the various visions of the city summarized above is the problematic evolution of the urban-rural dualism in the urban age.[72] How can the city offset the effects of the pollution it creates? How does a city feed itself? Where can people find nature in their urban life? Where are people happier? How much do the time and opportunities lost to urban congestion phenomena of all sorts affect human happiness in cities?

Urban-rural dualism, one of the theoretical foundations of the urban age thesis, should be reexamined, through the lens of the co-city, which requires us to think across geographical and conceptual boundaries. The co-city, as this Article argues, necessitates bridging the gap between urban and rural environments by urbanizing the countryside and ruralizing the urban space, toward the end of achieving a non-conflicting relationship between the two poles. The urban-rural dichotomy seems to have taken the path that Henri Lefebvre predicted,[73] as the main features of the countryside disappear under the aggressive exploitation caused by the urbanization processes.

The percentage of people leaving the countryside to move to the city is increasing and this process has a strong impact on the quality of life in urban areas affected by the lack of green spaces, pollution,

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68. Metropolitan regions in OECD countries often offer above average rates of growth; they compete for foreign direct investment, have a leading position in the knowledge based economy and attract a disproportionately large share of immigrants. OECD, *Governing the City*, 3 (2015), http://dx.doi.org/10.1787/9789264226500-en [https://perma.cc/UZ7R-B6GE]; *see also* OECD, *supra* note 67.

69. Neil Brenner, *Decoding the Newest "Metropolitan Regionalism" in the USA: A Critical Overview*, 19 CITIES 3-21 (2002).

70. The authors make an admonition to local administrators to consider the fact that inter-regional competition can bring some risks. *See* Sheila Foster & Nestor Davidson, *The Mobility Case for Regionalism*, 47 U.C. DAVIS L. REV. 63, 86 (2013).

71. *Id.* at 81-100.

72. *See generally* MURRAY BOOKCHIN, URBANIZATION WITHOUT CITIES: THE RISE AND DECLINE OF CITIZENSHIP (1992).

73. *See* HARVEY, *supra* note 1.

congestion, and even urban decay.[74] The necessity of ruralizing the city, to make cities environmental friendly, is related to the urban commons perspective. The countryside is perceived from the birth of the modern city as the place where people can escape from urban pressures and routines. The necessity of ruralizing the city, in particular for vulnerable groups, is important to guarantee a minimum quality of urban life and to maintain contact between people and nature in the city.

On the other side, the urbanization of the countryside also needs to be reexamined. Instead of following a purely consumerist[75] approach, meaning an uncontrolled transformation of the country into sprawling suburbs, the rural urbanization could indeed have a positive impact, an approach that brings social and technological innovation to improve and facilitate rural agriculture and everyday life in the country, and promotes storytelling and communication strategies to enhance sustainable tourism.[76]

The third complication is that cities are places of opportunities and collaboration but also of risks and conflicts. The increasing relevance of cities in modern society requires that we realize that the city can be a place of opportunity and vitality, but also a place of conflicts, violence, alienation, and inequality. Urban agglomeration leads to economic growth, opportunity, and a powerful innovative potential, but it may also lead to conflicts. As urbanization trends suggest, the current wave of urbanization represents both a risk and an opportunity.[77] In her seminal work on the global city, and later expulsions, Saskia Sassen raised a crucial issue of growing inequalities in big cities.[78] Cities therefore are a place of opportunities, but also of risks; cities can be the ground for collaboration, but also for conflict. The same mechanisms that drive cooperation, diversity, and

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74. *See generally* Foster & Iaione, *supra* note 2.

75. HARVEY, *supra* note 1.

76. For the work of the Rural Hub on rural social innovation in Italy, see RURAL HUB, http://www.ruralhub.it/it [https://perma.cc/2WXK-XTTW].

77. OECD, THE METROPOLITAN CENTURY: UNDERSTANDING URBANISATION AND ITS CONSEQUENCES 16 (2015), http://www.oecd.org/greengrowth/the-metropolitan-century-9789264228733-en.htm [https://perma.cc/N2LW-4ZAV]. *See also* Horatia Muir Watt, *Conflicts of Laws Unbounded: The Case for a Legal-Pluralist Revival*, 7 TRANSNAT'L LEGAL THEORY 313 (2016).

78. *See generally* SASKIA SASSEN, EXPULSIONS: BRUTALITY AND COMPLEXITY IN THE GLOBAL ECONOMY (2014); SASKIA SASSEN, THE GLOBAL CITY: NEW YORK, LONDON, TOKYO (1991). *See also* Patrick Le Gales & Tommaso Vitale, *Governing the Large Metropolis: A Research Agenda,* 8 Working Papers du Programme Cities are Back in Town 1 (2013), https://www.researchgate.net/publication/258629368_Governing_the_large_metropolis_A_research_agenda [https://perma.cc/XM45-5TEL].

prosperity could similarly drive conflicts, discrimination, and inequality.[79]

The complication is also rooted in philosophical and sociological conceptions of the city which understand urban space as both the place of value production and social conflict and as a biopolitical[80] center of power. Philosophers Michael Hardt and Antonio Negri,[81] identify a transition from an industrial to a biopolitical metropolis, and conceive the metropolis as a great "reservoir of the common,"[82] which "is to the multitude what the factory was to the industrial working class."[83] The conception of the multitude that constitutes the metropolis can be understood with the notion of "whatever singularity" developed by Giorgio Agamben,[84] which represents the concept of pure singularity, without a determinate identity.[85] Maria Rosaria Marella[86] underscored that whatever singularity is a necessary moment, for movements of resistance against neoliberal policies, during which individuals dismiss their various identities and become "a multiplicity of singularities acting in common, a crowd, a class, a multitude."[87]

II. THE FOURTH VISION

Given the above complications, which call into question the previous visions of the city, this Part argues for a vision of the twenty-first century city centered on rights of urban residents. It therefore introduces a fourth vision, the right to the city vision. In this Article we argue that this paradigm is able to overcome the three

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79. *See generally* U.N. Habitat, WORLDS CITIES REPORT 2016: URBANIZATION AND DEVELOPMENT: EMERGING FUTURES, 81 (2016). On the notion of diverse city, and the distinction between diverse and intercultural city see Marco Cremaschi & Carlotta Fioretti, *Diversity and Interculturalism, A Critique and a Defence. Going Through Multiethnic Neighbourhoods in Rome, in* THE INTERCULTURAL CITY: EXPLORING AN ELUSIVE IDEA 109-21 (Marcello Balbo ed., 2015).

80. In the analysis of Giorgio Agamben, the juridical institutional and the biopolitical modes of power cannot be conceived separately in modern democracy. GIORGIO AGAMBEN, HOMO SACER 7 (Daniel Heller-Roazen trans., 1998).

81. MICHAEL HARDT & ANTONIO NEGRI, COMMONWEALTH (2009).

82. *Id.* at 156.

83. *Id.* at 250.

84. *See* GIORGIO AGAMBEN, THE COMING COMMUNITY 25 (Michael Hardt trans., 2007).

85. *Id.* at 67.

86. Maria Rosaria Marella, *The Constituent Assembly of the Commons,* OPEN DEMOCRACY (Feb. 28, 2014), https://www.opendemocracy.net/can-europe-make-it/maria-rosaria-marella/constituent-assembly-of-commons-cac [https://perma.cc/FW34-84MQ].

87. *Id.*

complications of the other three visions, and addresses the issue of rights and social justice that is lacking in the other visions. This Part then outlines the two main approaches emerging in the implementation of the right to the city vision: the "rebel city" and the "co-city."

The urban visions described above represent a broad description of the arguments discussed in the disciplines that address urban issues, and thus are under-inclusive of the many diverse visions articulated. However, none of them provide a right-based argument. But what does a rights-based city mean? There are two main pillars to start building from to adopt a rights-based approach as a fourth vision for cities in the future. They are partially intertwined.

First, a rights-based vision of the city has to build on the idea of the "right to the city." This idea was introduced in the scholarly debate by the philosopher Henry Lefebvre in 1968 in his examination of the urban roots of social movements.[88] It was later introduced into contemporary urban studies by the geographer David Harvey.[89] Such vision advances the right of city inhabitants to be part of the creation of the city. This means that all the people settled in a city should have the right to be part of the decision making processes shaping their future and the spaces they live in. It also requires the recognition of the power of inhabitants to shape decisions about and have equal access to the urban resources and services in which they all have a stake.[90] This vision of the city is therefore a critique of the current dominant urban development paradigms. Such patterns are shaping urbanization in a way that is hampering full access by every city inhabitant to essential urban resources and services.[91]

Second, a rights-based vision is also aligned with the idea of city-based human rights and the growing interest in using urban policies to protect human rights recognized by international law.[92] This is particularly true with issues related to climate change,[93] nature, and

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88. LEFEBVRE, *supra* note 1, at 147.

89. HARVEY, *supra* note 1, at 939-41.

90. *See* Purcell, *supra* note 1, at 102.

91. HARVEY, *supra* note 1, at 940-41.

92. Barbara Oomen & Esther Van Den Berg, *Human Rights Cities: Urban Actors as Pragmatic Idealistic Human Rights Users*, 8 HUM. RTS. & INT'L LEGAL DISCOURSE 160 (2014).

93. Sheila Foster & Paolo Galizzi, *Human Rights and Climate Change: Building Synergies for a Common Future*, *in* THE CLIMATE LAW ENCYCLOPEDIA (Daniel Farber & Marjan Peeters eds., 2016).

culture.[94]   Human rights recognition has become an important challenge, and responsibility, for cities too.[95]   Cities can play a particular role by recognizing and securing to every city inhabitant the right to have access to essential resources and services.[96]

The injection of the right to the city and of a human rights based approach into city governance and policymaking as a way to guarantee a better urban future has been recently addressed by the United Nations. The vision encapsulated in the New Urban Agenda

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94. FEDERICO LENZERINI & ANA FILIPA VRDOLJAK, INTERNATIONAL LAW FOR COMMON GOODS: NORMATIVE PERSPECTIVES ON HUMAN RIGHTS, CULTURE AND NATURE 50 (2014).

95. While the role of Nation States, and the supporting activity of civil society organizations and businesses in the realization of human rights has always been recognized, the direct role of cities in protecting human rights received attention from scholarship only recently. *See* BARBARA M. OOMEN ET AL., GLOBAL URBAN JUSTICE: THE RISE OF HUMAN RIGHTS CITIES (Cambridge U. Press 2016) (outlining the development of "human rights cities," conceptualized as cities that express a strong commitment toward the realization of human rights); *see also* STEPHEN P. MARKS & KATHLEEN A. MODROWSKI WITH WALTHER LICHEM, HUMAN RIGHTS CITIES: CIVIC ENGAGEMENT FOR SOCIETAL DEVELOPMENT (Sextant Publishing 2008); Michele Grigolo, *Human Rights and Cities: The Barcelona Office for Non Discrimination and Its Work for Migrants*, 6 INT. J. OF HUM. RTS. 896-914 (2010); Mikhail Xifaras, *The Global Turn in Legal Theory*, 29 CAN. J.L. & JURIS. 215 (2016). Recently, the city of Madrid issued a Strategic Human Rights Plan. The plan grants every person living in Madrid the right to basic urban services: health, education, security, social services, energy, and telecommunications. The city is committed to realizing this right progressively, on the basis of the principles of progressivity, maximum use of resources, and equality. The city is also committed to adopting a fiscal policy that allows the realization of those rights. *See* AJUNTAMENTO DE MADRID, PLAN ESTRATÉGICO DE DERECHOS HUMANOS (2017-2019), http://www.madrid.es/UnidadWeb/Contenidos/Descriptivos/ficheros/PlanDDHH_Ma drid.pdf [https://perma.cc/LA67-GZCE]. One of the applications of the human rights approach to the city is the policy area of housing. An interesting case is represented by the city of Burlington, Vermont, where city officials and housing activists created a community land trust with a $200,000 city grant in order to guarantee the long-term affordability of housing realized with public subsidies, as provided by the city law. *See* Brittany Scott, *Is Urban Policy Making Way For The Wealthy? How A Human Rights Approach Challenges the Purging of Poor Communities from U.S. Cities*, 45 COLUM. HUM. RTS. L. REV. 863 (2014). Among the crucial challenges for human rights in the city, one must also include the issue of public services. Increasing privatization of urban services such as water and energy is in fact a crucial point for cities that must account for the balance between the realization of rights and the protection of foreign investments. *See* Attila Tanzi, *Reducing the Gap Between International Investment Law and Human Rights Law in International Investment Arbitration?*, 1 LATIN AM. J. OF INT'L TRADE L. 2 (2013). It also raises questions in terms of ensuring the application of the human rights convention from non-public bodies. *See* Stephanie Palmer, *Public Functions and Private Services: A Gap in Human Rights Protection*, 6 INT'L J. CONST. L. 585 (2008).

96. *See generally* Thomas Coggin & Marius Pieterse, *A Right to Transport: Moving Towards a Rights-Based Approach to Mobility in the City*, 31 S. AFR. J. ON HUM. RTS. 294 (2015).

through the U.N. Habitat III Conference in 2016 is that of a sustainable urban development, that aims at ending poverty and achieving a sustainable, inclusive urban prosperity.[97] The New Urban Agenda envisions cities where the full realization of the right to adequate living, universal access to safe and affordable drinking water and sanitation, and "equal access for all to public goods and quality services in areas such as food security and nutrition, health, education, infrastructure, mobility and transportation, energy, air quality, and livelihoods" are promoted.[98] Cities are participatory, engendering a sense of belonging and ownership among all their inhabitants, and are committed to promoting "equitable and affordable access to sustainable basic physical and social infrastructure for all, without discrimination, including affordable serviced land, housing, modern and renewable energy, safe drinking water and sanitation, safe, nutritious and adequate food, waste disposal, sustainable mobility, healthcare and family planning, education, culture, and information and communication technologies."[99]

The activity of the coalition of organizations grouped under the *Global Platform for the Right to the City*,[100] has been crucial for the development of the concept of the right to the city in the U.N. Habitat New Urban Agenda:[101]

> We share a vision of cities for all, referring to the equal use and enjoyment of cities and human settlements, seeking to promote inclusivity and ensure that all inhabitants, of present and future generations, without discrimination of any kind, are able to inhabit and produce just, safe, healthy, accessible, affordable, resilient, and sustainable cities and human settlements, to foster prosperity and quality of life for all. We note the efforts of some national and local

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97. U.N. CONF. ON HOUS. & SUSTAINABLE URB. DEV., *supra* note 1.

98. *Id.* at ¶ 13.

99. *Id.* at ¶ 34.

100. For information about the Global Platform for the Right to the City ("GPRC"), see GLOBAL PLATFORM FOR THE RIGHT TO THE CITY, http://www.righttothecityplatform.org.br/ [https://perma.cc/G4C6-JKCK]. GPRC aims at contributing to the adoption of policies and projects aimed at developing fair, democratic, sustainable and inclusive cities by United Nations bodies and the national and local governments.

101. *See* INFORMAL MEETING OF THE EU MINISTERS, URBAN AGENDA FOR THE EU: 'PACT OF AMSTERDAM' (May 30, 2016), http://ec.europa.eu/regional_policy/sources/policy/themes/urban-development/agenda/pact-of-amsterdam.pdf [https://perma.cc/5U4E-JRLP].

governments to enshrine this vision, referred to as right to the city,
in their legislations, political declarations and charters.[102]

Various authors underlined the core content and applications of
the right to the city.[103] There are also tensions and contradictions that
emerge from this vision. For instance the right to the city can at the
same time be a right to collective power, related to deliberation and
participation, and a right against unjust collective decisions taken by
authorities, related to representation and delegation.[104]

The next two sections of the Article sketch two slightly different
approaches that emerge within the vision of a rights-based approach
to the city as a commons: the "rebel city" approach, valuing political
conflict,[105] and the "co-city" approach which advances co-
governance[106] to reach the same goal.[107] They partially overlap and
potentially complement each other. Indeed both approaches align to
some degree with the idea of the commons to construe a rights-based
city. The main difference is the entry point they use for the right to
the city and the commons in the city: the rebel city tries the door of
urban politics, while the co-city instead uses the door of urban policy.

A. The Rebel City

The concept of rebel cities initially depicted global cities in which
inhabitants took an active role in the struggle against the process of
capital-intensive urbanization that is a "perpetual production of an
urban commons (or its shadow-form of public spaces and public
goods) and its perpetual appropriation and destruction by private
interests."[108] In 2011, rebel cities urban revolutionary movements,
such as urban protests and sit-ins in London, Madrid, Barcelona, or
the "Occupy Wall Street" movement in New York,[109] took action to

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102. *See* U.N. CONF. ON HOUS. & SUSTAINABLE URB. DEV., HABITAT III, NEW
URBAN AGENDA: DRAFT OUTCOME DOCUMENT FOR ADOPTION IN QUITO 2 (Sept.
10, 2016), https://www2.habitat3.org/bitcache/97ced11dcecef85d41f74043195e5472836
f6291?vid=588897&disposition=inline&op=view [https://perma.cc/V33R-FTUJ].

103. *See generally* Peter Marcuse, *From Critical Urban Theory to the Right to the
City,* 13 CITY 185, 185-97 (2009); *see also* DON MITCHELL, THE RIGHT TO THE CITY:
SOCIAL JUSTICE AND THE FIGHT FOR PUBLIC SPACE (2003).

104. *See generally* Kafui Attoh, *What Kind of Right is the Right to the City?,* 35
PROGRESS IN HUM. GEOGRAPHY 669 (2011).

105. *See* HARVEY, *supra* note 1.

106. *See* Iaione, *supra* note 5.

107. *See generally* Foster & Iaione, *supra* note 2.

108. *See* HARVEY, *supra* note 1, at 80.

109. *See id.* at 159-64. The Occupy Wall Street Movement began in New York
City on September 17, 2011 and spread to several U.S. cities. The strategy of the
movement is to occupy a central public space, such as a park or a square close to a

reclaim the right to the city.[110] The case studies highlighted by Harvey are characterized by a high degree of conflict.[111] Cities are indeed becoming places where wealth is highly concentrated and inequality exponential. Thus the risk that this fracture turns into conflict is very high. Growing inequality in cities is a dynamic strongly linked to the real estate investments. Leading urban sociologist Saskia Sassen examined urban land acquisitions in the global cities. Urban property is attractive due to its increasing value, but also because it allows the owner to access the space of cities that stand at the heart of the global economy.[112] Investments are not concentrated purely in buildings, but also undeveloped lots.[113] Instead of being used, many investment properties are actually empty or under utilized,[114] serving instead as money storage units for big companies.[115] According to Sassen, investments in urban land are generating something worse than gentrification, they trigger forms of "expulsions"[116] from urban areas. The growing inequality in urban land property and the displacement processes will inevitably trigger new "rebellions" as patterns of change in urban land and buildings ownership impact the character of the city, through the privatization and transformation of urban public spaces.[117]

Another source of conflict and therefore possible urban rebellion is happening in cities where sharing economy platforms are disrupting local industries.[118] The potential conflict is clear from the protests

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center of power concentration. In the case of New York, it was Liberty Square in the Manhattan Financial District. The occupied public space became a center for public discussion and debate about what those in power are doing and possible opposition strategies. The aim of the movement is to protest austerity policies and the power of major financial institutions. *See* OCCUPY WALL STREET, http://occupywallst.org [https://perma.cc/8B88-8FW9].

110. *See generally* Ugo Mattei & Alessandra Quarta, *Right to the City or Urban Commoning: Thoughts on the Generative Transformation of Property Law*, 1 ITALIAN L.J. 303 (2015).

111. *See* HARVEY, *supra* note 1, at 155-57.

112. *See* Saskia Sassen, *The Global City: Enabling Economic Intermediation and Bearing Its Costs*, 15 CITY & CMTY. 97, 104-05 (2016).

113. Saskia Sassen, *Investment in Urban Land is on the Rise. We Need to Know Who Owns Our Cities*, CONVERSATION (Aug. 9, 2016), http://theconversation.com/investment-in-urban-land-is-on-the-rise-we-need-to-know-who-owns-our-cities-63485 [https://perma.cc/UP9F-RKN7].

114. *See* Sassen, *supra* note 112, at 104-05.

115. *See id.* at 113.

116. *See generally* SASSEN, THE GLOBAL CITY, *supra* note 78; SASSEN, EXPULSIONS, *supra* note 78.

117. *See* HARDT & NEGRI, *supra* note 81, at 250.

118. *See generally* Davidson & Infranca, *supra* note 47.

and riots triggered by taxi drivers against Uber in France,[119] Belgium,[120] Latin America, Costa Rica,[121] and recently in Nairobi.[122] Sharing economy platforms or smart city initiatives, much like traditional urban land development,[123] will be increasingly confronted with these kind of conflicts if they do not face the issue of the inequalities they produce.

Social movements have evolved from the early resistance mode towards a more constructive version of the "rebel city approach." They started building municipal political platforms to fight these phenomena politically.[124] In the European context we can observe the rise of radical democratic innovations at the political level, in cities like Naples[125] or Barcelona.[126] In Rome too social movements

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119. After the protest of taxi drivers—that eventually became violent against the new app launched by Uber, UberPOP—French drivers of app companies like Uber and Chauffeurs Privées organized a counter protest in February. *See* Max Slater-Robins & Barbara Tasch, *French Taxi Drivers Shut down Paris as Protests over Uber Turn Violent*, BUS. INSIDER UK (Jan. 26, 2016), http://www.businessinsider.com/uber-protests-in-paris-2016-1 [https://perma.cc/XTR8-HF6G]; *see also* Britta Pedersen, *After Taxis, French Uber Drivers Launch Their Own Protest*, FR. 24 (May 2, 2016), http://www.france24.com/en/20160202-after-taxis-french-uber-drivers-plan-own-protest [https://perma.cc/W3NL-96R4].

120. *See* Julia Fioretti, *Taxi Jam Brussels in Protest Against Uber*, REUTERS (Sept. 16, 2017), http://www.reuters.com/article/us-uber-tech-belgium-idUSKCN0RG1XB2 0150916 [https://perma.cc/R5G9-2WK3].

121. Latin America is also the fastest development region for Uber, with Mexico on the top. *See* Andrew Willis, *Uber's Fastest Growing Region Set for New No.1 Break-Even*, BLOOMBERG TECH. (May 30, 2016), http://www.bloomberg.com/news/articles/2016-05-31/uber-s-fastest-growing-region-set-to-break-even-fund-expansion [https://perma.cc/ZSQ8-SV2U]; *see also Latin America, Europe Cab Drivers Team Up Against Uber*, EURACTIV (July 7, 2015), https://www.euractiv.com/section/transport/news/latin-america-europe-cab-drivers-team-up-against-uber/ [https://perma.cc/PY7E-6C9B]; Christopher Woody, *Uber is Facing Pushback in Another Country in the App's Fastest-growing Region*, BUS. INSIDER UK (Aug. 11, 2016), http://uk.businessinsider.com/anti-uber-protests-in-costa-rica-and-latin-amer ica-2016-8 [https://perma.cc/7VPT-RAJX].

122. *See Kenya Investigates "Barbaric" Uber Attacks in Nairobi*, BBC NEWS (Feb. 2, 2016), http://www.bbc.com/news/world-africa-35476405 [https://perma.cc/K8H9-Z5UX].

123. *See* Sassen, *supra* note 113.

124. *See* Marc Martí-Costa & Mariona Tomàs, *Urban Governance in Spain: From Democratic Transition to Austerity Policies*, 27 URB. STUD. 2107 (2016).

125. Naples was the first Italian city to establish a Department for the Commons in the municipality and the first to insert the term commons in the statute. If the model of the rebel city also includes occupation of public or private spaces, then the case of Naples might offer a good observation point. The City of Naples recently approved a resolution, n. 446 of 2016, that in accordance and as an enactment of the previous resolution n. 7, March 9, 2015 (that provided guidelines for under-utilized public buildings, perceived from the community as commons and consequently potentially subject to collective fruition) recognizes seven buildings—currently occupied—as

have started an attempt to draft a "Charter of Common Rome"[127] identifying ten fundamental principles aimed at the recognition of the right to use of social spaces.

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commons that are perceived by citizens as civic environment. The resolution prescribes that the city ensures the enactment of the following steps: approval of internal regulations of civic use or other forms of civic self-organization that will be recognized in collective conventions; identification of sustainability strategies; creation of the requisites for an effective dialogue with public administration; ensure security in the spaces. COMUNE DI NAPOLI, REGISTRO DELLE DELIBERAZIONI DI GIUNTA COMUNALE–DELIB. N 446 (Mar. 27, 2016), http://www.exasilofilangieri.it/wp-content/uploads/2016/07/delibera-4462016-comune-Napoli.pdf [https://perma.cc/G2VP-HMLH] (text of the original resolution in Italian). *See also* Ugo Mattei & Alessandra Quarta, *Right to the City or Urban Commoning: Thoughts on the Generative Transformation of Property Law*, 1 ITALIAN L.J. 303 (2015).

126. *See* Melissa Garcia Lamarca, *Insurgent Acts of Being-in-Common and Housing in Spain: Making Urban Commons?*, *in* URBAN COMMONS: MOVING BEYOND STATE AND MARKET (Mary Dellenbaugh et al. eds., 2015), for a reconstruction of the development of the housing issue and the Platform for Mortgage Victims ("PAH") movement in Spain. The mayor of Barcelona, Ada Colau, was a housing activist. She helped to build up a grassroots platform, the PAH, which championed the rights of citizens unable to pay their mortgages or threatened with eviction; *see also* Dan Hancox, *Ada Colau: Is This The World's Most Radical Mayor?*, GUARDIAN (May 26, 2016), https://www.theguardian.com/world/2016/may/26/ada-colau-barcelona-most-radical-mayor-in-the-world [https://perma.cc/7KLS-NAUH]. Ada Colau was elected from the civic list Barcelona en comù, a civic platform with a program focused on social and environmental justice, transparency and democracy of proximity, including measures such as the minimum income. *See* BARCELONA IN COMU, https://barcelonaencomu.cat/ca [https://perma.cc/A2XM-URNP]. For more information, see also the participative platform *Participa*, BARCELONA IN COMU, https://participa.barcelonaencomu.cat/es/users/sign_in [https://perma.cc/DWR7-F3PL].

127. The "Roma Decide" network, active since April 2016, organized a participatory process in order to draft the Charter of Common Rome, that defines ten principles for the participatory management of the public goods of the city of Rome: 1) the inalienability of State-owned assets; 2) the introduction of the right to the "common use" of such assets; 3) the distinction between legality and legitimacy in order to filter cases that are grounded in urban informal, social, and solidarity practices; 4) the direct reference to the constitutional principles that can protect this approach such as Articles 2, 42, 43, 45, and 118 of the Italian Constitution; 5) the recognition that law can be produced by society; 6) the recognition of the right to autonomy as a right to self-organize and self-regulate but with the possibility to keep the door open to the relations with others; 7) the need for a different bureaucratic approach towards experiences of self-management and solidarity that should be considered as social institutions; 8) the recognition of the urban commons (social spaces, virtuous associations, cultural centers, industrial reconverted assets, and new forms of cooperative work) through a specific regulatory tool; 9) the recognition of the urban commons as functional to fundamental rights according to the findings of the Rodotà Commission; 10) the recognition of the right to co-manage the urban commons and participate in decision-making processes related to them. *See* DECIDE ROMA, CARTA DI ROMA COMUNE, http://www.decideroma.com/carta1 [https://perma.cc/U33G-K4DC] (text of the original Charter of Common Rome in Italian).

B.   The Co-City

A second vision which incorporates the rights-based approach is the "co-city." It still builds on the lessons drawn from the literature on the right to the city and the commons.[128] It uses however sharing, collaboration, and polycentricism, rather than civil or political conflict, as a means to redesign urban governance, not just city government.[129] According to this approach, cities need to recognize the right to the city if they want to prevent or reduce conflicts within their borders. If they want to be prepared to respond or adapt to the serious social and environmental challenges that will pressure the current urban governance architecture, they need to invest in co-governance strategies aimed at restoring an equilibrium in the power asymmetries in the urban context.[130]

The idea of the co-city relies upon the research efforts conducted in recent years in order to investigate if urban essential assets and services could be reframed as urban shared resources, as opposed to public or private ones, and whether research on the governance of the commons could improve management of these resources and services.[131] The guiding research question then became whether, in the age of sharing, peer to peer, and collaboration, the lessons learned from the urban commons could make room for a new way of thinking in the design of urban public and economic institutions.[132]

In other words, beyond single urban assets and services as shared resources, can the city itself as a pooled resource be transformed into a collaborative ecosystem where collective action for the commons is recognized and enabled?[133] The literature on the governance of the urban commons suggests that co-governance of urban essential resources can be adopted as an urban policy strategy to transition away from the current urban governance paradigm, based on public-private partnerships, towards co-governance which is based on shared, collaborative, polycentric governance, and public-commons or public-private-commons partnerships.[134]

Such a shift presupposes an "enabling state," a city government that would liberate and support collective action across the city and

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128. Foster & Iaione, *supra* note 2.

129. *Id.* at 289.

130. Iaione, *supra* note 5, at 426.

131. *See generally* Sheila R. Foster, *Collective Action and the Urban Commons*, 87 NOTRE DAME L. REV. 57 (2011); Iaione, *supra* note 6.

132. *See generally* Foster & Iaione, *supra* note 2; Iaione, *supra* note 5.

133. *See* Iaione, *supra* note 3, at 170.

134. *See* Foster & Iaione, *supra* note 2, at 290; Iaione, *supra* note 5.

allow local communities to guide decisions about how commons are used, who has access to them, and how they are shared among a diverse population.[135] The shift from the urban commons to the city as a commons, exemplified in evolving models of the sharing city and the collaborative city, with the major examples of Seoul (sharing city) and Bologna (collaborative city), requires a theory of urban co-governance. Urban co-governance is a way to federate a wide spectrum of commons-based agents in the city (i.e. single city inhabitants or informal groups, civil society organizations, knowledge institutions). It is also an approach that looks to work together with public and private agents in order to co-govern or co-own the city, its resources, assets, networks, and services.[136]

To conceive the city as a commons, this approach builds on and moves away from the triple helix model of innovation, which is based on a collaborative relationship between universities, industry, and government.[137] The co-city idea instead advances a quintuple helix design[138] to innovate urban governance and implement the idea of the "city as a commons." The quintuple helix model is a concrete expression of the idea of public-private-commons partnership and is designed to overcome the more narrow public-private partnership and give relevance to the proactive role of knowledge institutions—universities, cultural organization, foundations, schools—as the neutral driver of the governance system.[139] This alternative, innovative helix would bring more forcefully into the fray universities and knowledge institutions, local businesses and enterprises that implement corporate social responsibility, single urban inhabitants, informal group and micro commoners, and hyper local communities. These civic, private, public, cognitive, and social actors would work together in order to build the new governance of the city, to experiment with different forms of urban commons, and thus would rebuild the foundations of social contract of the city.

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135. Foster, *supra* note 32, at 532.

136. Foster & Iaione, *supra* note 2.

137. *See* Loet Leydesdorff & Henry Etzkowitz, *The Triple Helix as a Model for Innovation Studies*, 25 SCI & PUB. POL'Y 195 (1998).

138. *See* Iaione & Cannavò, *supra* note 4; Elias G. Carayannis & David F.J. Campbell, *Triple Helix, Quadruple Helix and Quintuple Helix and How Do Knowledge, Innovation and the Environment Relate to Each Other? A Proposed Framework For a Trans-Disciplinary Analysis of Sustainable Development and Social Ecology*, 1 INT. J. OF SOC. ECO. SUST. DEV., 41-69 (2010) (proposing a quintuple helix system of innovation for environmental systems).

139. Foster & Iaione, *supra* note 2.

In the European Union, the recently approved Pact of Amsterdam, the Urban Agenda for the EU, considers among its priorities inclusion of migrants and refugees, urban poverty, housing, urban mobility, and sustainable use of land and, to accomplish these goals, suggests adopting a quintuple helix approach to rethink urban governance.[140]

III. POOLING AS THE DESIGN PRINCIPLE OF A RIGHTS-BASED CITY

The rights-based city draws on the paradigm of the city as a commons. Commons, however, rely upon commoning, which are the social practices of sharing, collaborating, and pooling. Pooling seems to be the most complete social practice: it encompasses both sharing and collaboration. It cuts across all the different kinds of commoning practices and therefore may represent the cornerstone of a commons-based urban paradigm. Pooling is a concept becoming increasingly popular in other lines of literature too, especially those related to the rethinking of economic models and government action.

This Part construes the concept of pooling by drawing from different bodies of literature. First, it addresses pooling as a design principle of the governance of different kinds of commons. Second, it digs in to the literature on modes of production and modes of exchange to produce value, as well as public policies using pooling to contrast it with sharing economy initiatives. Last, it builds on the scholarship drawing lessons from the actual design of the administrative state.

A. Pooling as the True Essence of Urban Communing

In order to envision a rights-based city, we need a deeper understanding of the commons. Modern cities can be conceived as a multi-layered composition of highly complex resources that contain all degrees[141] of the conception and situations that have been

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140. *See* URBAN AGENDA FOR THE EU, *supra* note 101, at 4 (establishing that "[i]n order to address the increasingly complex challenges in Urban Areas, it is important that Urban Authorities cooperate with local communities, civil society, businesses and knowledge institutions. Together they are the main drivers in shaping sustainable development with the aim of enhancing the environmental, economic, social and cultural progress of Urban Areas. EU, national, regional and local policies should set the necessary framework in which citizens, NGOs, businesses and Urban Authorities, with the contribution of knowledge institutions, can tackle their most pressing challenges.").

141. This is an analogy to what Jane Jacobs wrote in 1961 while discussing successful and unsuccessful neighborhoods: "our cities contain all degrees of success and failures." *See* JANE JACOBS, THE DEATH AND LIFE OF GREAT AMERICAN CITIES 112 (1989).

outlined[142] in the contemporary scholarship on the commons—tragedy, comedy,[143] and tragicomedy of the commons.

However many authors have suggested that rather than focusing on commons as material or immaterial resource, one needs to understand better commoning[144] as the social, also informal, practice used by commoners in the management of the common resources and producing social, economic, and relational value. The rights-based city will therefore be able to deliver rights to city inhabitants only if it recognizes and captures the true essence of urban commoning. To do so, we argue, it needs to invest in understanding how urban commoning processes look like and function. The true essence of this commoning process can only be understood if we look at how these social practices work with different kinds of commons. These practices also need and shape different governance regimes. The following Section discusses the governance design principles of the three main commons in the city.

Pooling emerges as a potential cross-cutting methodology for all the different kinds of commons and therefore for the city as a commons. It will be demonstrated how pooling can shape different governance strategies, in order to enable sharing, collaboration, and polycentricism. In order to understand the notion of pooling, we need to understand how it connects to the idea of the commons in different contexts, as discussed by different scholars.

1.   *The Tragedy of the Congestible Commons*

The phenomenon of the tragedy of freedom in the commons has been identified by Garrett Hardin with his well-known article *The Tragedy of the Commons*.[145] The idea behind his theory is that when

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142. Brigham Daniels, *The Tragicomedy of the Commons*, 2014 BYU L. REV. 1347, 1372 (2014).

143. *See generally* Carol Rose, *The Comedy of the Commons: Commerce, Customs and Inherently Public Property*, 53 U. CHI. L. REV. 3 (1986).

144. Prominent public intellectuals talk in the field of the commons about "commoning" as a powerful dynamic process able to create social value and relations. *See* D. BOLLIER & SILKE HELFRICH, PATTERNS OF COMMONING (2015). "Commoning" is a term used also by historian Peter Linebaugh to describe the social practices used by commoners in the course of managing shared resources and reclaiming the commons. PETER LINEBAUGH, THE MAGNA CARTA MANIFESTO: LIBERTIES AND COMMONS FOR ALL 59 (2008) (advancing that the practice of commoning can provide "mutual aid, neighborliness, fellowship, and family with their obligations of trust and expectations of security"). *See also* Iaione, *supra* note 5; Ivana Pais & Giancarlo Provasi, *Sharing Economy: A Step Towards the Re-Embeddedness of the Economy?*, 105 STATO E MERCATO 347 (2015); Guido Smorto, *The Sharing Economy as a Means to Urban Commoning*, 7 COMP. L. REV. 2 (2016).

145. Garett Hardin, *The Tragedy of the Commons*, 162 SCI. 1243, 1244 (1968).

there is a commons with open access, a tragedy will occur and the resource will be over-exploited.[146] The example used by the author is an open access pasture in which every herder seeks to maximize their utility by adding more animals to it.[147] This utility has a positive component—the revenues for the individual of selling more animals—and a negative component—the additional overgrazing created by one more animal. But since the negative component is shared, this negative utility is lower. Hardin argues that "each man is locked into a system that compels him to increase his herd without limit—in a world that is limited. Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons,"[148] therefore "freedom in a commons brings ruin to all."[149] Hardin concludes that since, "[i]ndividuals locked into the logic of the commons are free only to bring on universal ruin; once they see the necessity of mutual coercion, they become free to pursue other goals"[150] and that the only solution possible is relinquishing the freedom to breed.[151]

Introducing her major empirical research work *Governing the Commons*,[152] Elinor Ostrom explains that her study is focused on small-scale common pool resources, with a limited number of individuals affected from the resources.[153] She also highlights the limits of the types of common pool resources analyzed in the research: "(1) renewable rather than nonrenewable resources, (2) situations where substantial scarcity exists, rather than abundance, and (3) situations in which the users can substantially harm one another, but not situations in which participants can produce major external harm for others."[154]

The main characteristics of the tragedy of the commons are rivalry and non-excludability.[155] These features trigger, incentivize, or simply allow overconsumption of the resource beyond its capacity for renewal. The tragedy is the tale of a crowding or congestion phenomenon in the use of a given resource. Such tragedy caused by

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146. *Id.*
147. *Id.*
148. *Id.*
149. *Id.*
150. *Id.* at 1248.
151. *Id.*
152. ELINOR OSTROM, GOVERNING THE COMMONS (1990).
153. Between fifty and fifteen thousand people depended on the resources Ostrom examined, making them highly motivated to solve problems. *Id.* at 26.
154. *Id.*
155. *Id.* at 30.

the crowding or congestion phenomenon generates scarcity, because it hampers the renewability of the resource, and ultimately may lead to the destruction of the resource. The tragedy in the traditional commons[156] can be avoided by fostering cooperation among users in the sharing of the resource.[157] Building governance regimes that facilitate cooperation in the sharing of the resource may guarantee the sustainability or renewability of the resource.

2. The Comedy of the Constructed Commons

In contrast to the tragedy of the congestible commons outlined by Ostrom, the "comedy of the commons," was introduced in legal scholarship by Carol Rose.[158] The comedy takes place in cases of non-tragic commons, open commons, or productive commons.[159] The comedy of the commons can be described as a situation in which congestion and agglomeration of users is needed in order to raise the value of the commons. People not only use the commons, but also produce the commons.

To frame the tale of the comedy of the commons Carol Rose retraced the doctrine of inherent publicness.[160] She described certain goods, such as roads or waterways, that must be open to the general public, not limited as private property nor to a specific community of users. Rose uses the example of recreational activities, like dance, in which each additional dancer increases the value of participation, because "each added dancer brings new opportunities to vary partners and share the excitement."[161] The value of those activities relies upon "reinforc[ing] the solidarity and fellow-feeling of the whole community."[162] Rose comments that this is "the reverse of the "tragedy of the commons:" it is a "comedy of the commons."[163]

As Lee Ann Fennell has also highlighted, there are some aspects of life in the city where an abundance of participants creates more

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156. Charlotte Hess, *Mapping the New Commons,* Twelfth Biennial Conf. of the Int'l Ass'n for the Study of the Commons (July 2008), http://surface.syr.edu/cgi/viewcontent.cgi?article=1023&context=sul [https://perma.cc/N62L-Z9VN].

157. Ostrom, *supra* note 152.

158. Rose, *supra* note 143.

159. Yochai Benkler, *Commons and Growth: The Essential Role of Open Commons in Market Economies*, 80 U. Chi. L. Rev., 1499, 1511 (2013).

160. Rose, *supra* note 143, at 770.

161. *Id.* at 767. Those are activities where "increasing participation enhances the value of the activity rather than diminishing it." *Id.* at 768.

162. *Id.* at 768.

163. *Id.*

value.[164] Agglomeration economies is a term used by economists of all stripes, including urban economists, to describe the kind of impacts and benefits which occur when industries or people cluster together. Cities generate agglomeration economies, and benefit from the attraction of high skilled people and growth opportunities.[165] The comedy of the commons in the city might therefore be described by situations where the abundance of participants does not create congestion, crowding, or overconsumption. It instead produces added value and reinforces the commons.

3.　*The Tragicomedy of the Infrastructure Commons*

Combining these ideas of the commons, and applying them to the urban context, this Section imagines the tragicomedy of the commons as one way of thinking about the need for pooling in the city by analyzing the infrastructure commons. Fennell has underscored that, in the city, the tragedy and the comedy of the commons might potentially come together[166] because there is both a risk of undercultivation[167] (when the city does not succeed in generating the agglomeration benefits) and overconsumption, overcrowding, or congestion as negative effects related to urbanization.[168]

For example, infrastructure commons are highly complex resources, because they share some characteristics with the tragic congestible commons (risk of congestion and overuse) and some features of the open non-congestible commons (infrastructure of the city is a commons of crucial importance due to the high degree of complexity of urban environments).[169] Physical infrastructure and online infrastructure are thus crucial for the city. As Parag Khanna recently stated "no matter which way we connect, we do so through infrastructures."[170] Brett Frischmann's studies helped frame infrastructure (both traditional—transportation and communication—and non-traditional—environmental and

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164. Lee Ann Fennell, *Agglomerama*, 2014 BYU L. REV. 1373, 1382 (2015).

165. *See* Foster & Davidson, *supra* note 70, at 100 (for a reconstruction of the literature on urban agglomeration economies).

166. Fennell, *supra* note 164, at 1373.

167. *Id.*

168. *Id.*

169. *See* Iaione, *supra* note 6; *see also* BRETT FRISCHMANN, INFRASTRUCTURE (2012).

170. PARAG KHANNA, CONNECTOGRAPHY: MAPPING THE FUTURE OF GLOBAL CIVILIZATION 7 (2016). For a critical analysis of *Connectography*, see Daniel W. Drezner, *'Connectography,' by Parag Khanna*, N.Y. TIMES (Apr. 29, 2016), http://www.nytimes.com/2016/05/01/books/review/connectography-by-parag-khanna.html [https://perma.cc/92G5-HA37].

intellectual infrastructures)[171] as commons. Frischmann argues that infrastructures have a social value that exceeds their private market value, and open commons management is therefore a very attractive strategy for infrastructure commons, because it offers opportunities for users to generate public and social goods, albeit with a range of complications, such as congestion.[172] Benkler claims the need to consider a wide range of approaches for dealing with commons dilemmas.[173] This is especially true for infrastructure commons in the city. Indeed, we can assume that as with congestible commons we will need to avoid overconsumption through sharing and thereby prevent the tragedy from happening. At the same time though we could either optimize existing capacity or expand capacity of infrastructure by agglomerating users of an infrastructure as in urban constructed commons. For example car-pooling is a way to agglomerate users of a road infrastructure.

From the literature on the commons, we can see that a tension emerges from the opposition of scarcity and agglomeration. If we conceptualize the whole city as a commons, we can conceive it as both a congestible commons, subject to overconsumption and tragedy, but also as a constructed (and generative) commons with differing degrees of capacity, capable of producing positive agglomeration benefits. The concept of capacity could be the element that bridges the space between these two opposite poles on the spectrum.

When we are dealing with inherently tragic commons, or natural resources commons, we typically focus on how to design a governance strategy which enables cooperation through sharing. In order to overcome scarcity of the natural resource commons, cooperation through sharing is needed. Ostrom demonstrated that, through cooperative strategies, commons users can avoid the tragedy and maintain the value of the commons for the community.[174] In an urban or metropolitan context,[175] congestion is very likely to occur and produce different outcomes. As Sheila Foster has explained,

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171. FRISCHMANN, *supra* note 169, at 189-253.

172. *Id.* at 116.

173. Benkler, *supra* note 159, at 1520.

174. OSTROM, *supra* note 152, at 112.

175. Hardin highlighted the difference between resources in a natural context and in an urban context, although from a moral standpoint. He adopts a definition of morality that is context based: the morality of an act is a function of the state of the system at the time it is performed. Therefore, he argues, "[u]sing the commons as a cesspool does not harm the general public under frontier conditions, because there is no public; the same behavior in a metropolis is unbearable." Hardin, *supra* note 145, at 1243-48.

urban commons can share the same rivalry and free-rider problems that lead to the tragedy of the commons,[176] particularly through the phenomena of regulatory slippage.[177]

To generate agglomeration around the constructed commons, governance must enable cooperation through collaboration. Scholars who write about the open commons[178] focus on the limits of any single mechanism to overcome collective action problems and emphasize the necessity of management based on symmetric access rules and reduced power to appropriate through exclusion in order to allow flexible and dynamic use.[179] The conventional theory of the tragic commons has been put into question by the study of collaborative institutions for the generation of knowledge and innovation.[180] Fennell has stressed the positive effect of urban proximity that can generate "energy"[181] and provided suggestions about policy instruments designed to assemble participants optimally.[182] This idea might be applied to the urban cultural or knowledge commons,[183] a kind of constructed commons.[184] Collaboration between different actors is the strategy through which agglomeration, constructed commons creation, and innovation[185] are

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176. Sheila Foster provides several examples in which rival and degraded common urban resources are being collectively restored and managed by groups of users in the absence of government coercion, and without transferring the ownership to the private. Foster, *supra* note 32, at 558.

177. Foster & Iaione, *supra* note 2, at 297-99.

178. Yochai Benkler, *Between Spanish Huertas and the Open Road: A Tale of Two Commons?, in* GOVERNING KNOWLEDGE COMMONS (Brett Frischmann et al. eds., 2014).

179. Benkler, *supra* note 159, at 1555.

180. Michael J. Madison, Katherine J. Strandburg, & Brett M. Frischmann, *Knowledge Commons, in* RESEARCH HANDBOOK ON THE ECONOMICS OF INTELLECTUAL PROPERTY LAW (VOL. II–ANALYTICAL METHODS) (Peter Menell & David Schwartz eds., 2016) (forthcoming). *See also* Séverine Dusollier, *Inclusivity in Intellectual Property, in* INTELLECTUAL PROPERTY AND GENERAL LEGAL PRINCIPLES (Graeme B. Dinwoodie ed., 2015).

181. Fennell, *supra* note 164, at 1389.

182. *Id.* at 1390-91.

183. UNDERSTANDING KNOWLEDGE AS A COMMONS: FROM THEORY TO PRACTICE (Charlotte Hess & Elinor Ostrom eds., 2007).

184. For Madison et al., cultural commons are "constructed" in the sense that their "creation, existence, operation and persistence are matters not of pure accident or random chance, but instead of emergent social process and institutional design". Madison et al., *Constructing Commons in the Cultural Environment, in* WEALTH OF THE COMMONS (David Bollier & Silke Helfrich eds., 2010).

185. Benkler has explained how innovation and knowledge commons generation could emerge from collaboration between different actors. Yochai Benkler, *Peer Production and Cooperation, in* HANDBOOK ON THE ECONOMICS OF THE INTERNET (J. M. Bauer & M. Latzer eds., 2016).

generated, paying attention to balance impact and consequences, taking into account that the same ingredients that produce agglomeration might also bring congestion.[186]

Cooperation through collaboration could be the strategy through which agglomeration benefits are generated in those commons. With artificial or constructed commons in the city, cooperation through collaboration is the path to create abundance or agglomeration, promoting activities where a greater participation produces exponentially positive externalities, in a virtuous circle.[187]

Finally, in order to prevent congestion and generate expansion of the capacity of the infrastructure commons, we should enable cooperation through agglomeration which can be conceived as a form of pooling. This third category of commons, infrastructure commons, conveys something more about the idea of the city as a commons. With infrastructure, both prevention of congestion and capacity generation are needed and capacity can replace the concept of scarcity. The three different situations envisioned above have elements that link them to one another. Elements of tragedy and comedy coexist[188] in the urban infrastructure commons and this makes it hard to govern them.

Frischmann argues for openness as the baseline principle for public social and mixed infrastructure and thus imagines that there might be cases where commons management needs congestion management, depending on the characteristic of the infrastructure.[189] It has already been highlighted that traffic congestion represents a typical situation of tragedy of the commons, and that the best response to the tragedy of road congestion relies on market-based regulatory techniques and public policies aimed at controlling the demand-side of transportation congestion. Quantity instruments, such as tradable permits of road usage and real estate development, can better internalize all the externalities that congestion produces,[190] and the use of commons should be regulated at the level of individuals, urban inhabitants (the lowest level possible) who are facilitated by the government in pursuing the public interest in their everyday lives.[191] In the case of

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186. See the reasoning followed by Fennel in explaining the relation between positive and negative externalities of urban proximity. Fennell, *supra* note 164, at 1374.

187. Rose, *supra* note 143, at 769.

188. Daniels identified several situations where tragedy and comedy of the commons overlaps. Daniels, *supra* note 142, at 1371-73.

189. FRISCHMANN, *supra* note 169.

190. Iaione, *supra* note 6, at 893.

191. *Id.* at 949-50.

infrastructure commons, cooperation might be a demand-side strategy to enhance capacity and efficiency of the existing network, while fighting congestion (car-pooling). Infrastructure both realizes and creates social value for individuals[192] and through pooling practices, a process of creation of new infrastructures occurs, in a network effect with the aim of both preventing road congestion and expanding resource capacity.

The question that this Article ultimately investigates is whether urban commons might be reconceptualized as infrastructure drawing on Frischmann's theoretical framework of infrastructure as commons.[193] Urban commons would thus be reconceptualized as a means to enable the production of urban knowledge as a commons through continuous experimentation processes that bring together the actors of the quintuple helix urban co-governance approach.[194] Conceiving commons as infrastructures means identifying the main role of the commons for the pooling paradigm, as discussed above. Infrastructures, in the co-city, have a triple purpose: 1) enabling collective action for the commons, 2) preparing the transition to the pooling paradigm, and 3) redistributing crucial urban resources such as urban energy.[195]

CONCLUSION

Urban pooling has been considered here as a cross-cutting methodology and as a design principle of a co-city. A co-city envisages the city as an open and accessible infrastructure enabling commoning or cooperative behaviors such as sharing, collaboration, and pooling. They are all forms or degrees of urban cooperative behaviors that aim to pool energies, actions, and actors around urban essential resources and services. Pooling as a concept encompasses both sharing and collaboration and therefore is the best candidate to act as the basic design principle of a co-city.

We argued that the co-city is the only vision that can offer an answer to both the recognition and enforcement as well as the viability of rights of city inhabitants and therefore found the rights-based city model emerging from the right to the city approach.[196]

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192. *See generally* FRISCHMANN, *supra* note 169.

193. *Id.*

194. Iaione, *supra* note 5, at 426-27.

195. H.J. Wiseman, *Urban Energy,* 40 FORDHAM URB. L. J. 1793, 1795 (2013).

196. The idea of the commons also implies the transformation of public goods into commons and this shift might create new rights of protection for commoners. For a report on a deep dive workshop convened by the Commons Strategies group in cooperation with the Heinrich Boll Foundation, see *New Report: State Power and*

Urban pooling could also tackle environmental concerns, embed technological advancement, and be the driver of knowledge-based local economic development. A rights-based city model leveraging pooling could therefore be complementary to all the contemporary urban visions that have been presented in this Article if the model builds on urban pooling processes that enable commoning or cooperative behaviors in the city. If the knowledge-based city calls for a vision of the city as a marketplace, the nature-based city envisions it as an ecological system, and the tech-based city as a technological platform, the morphology of a rights-based city is the city as a commons,[197] meaning that the city must be reconceived as an open and accessible infrastructure that enables social and economic pooling to use, access, manage, and produce resources in common.

In order to conceive the city as commons, we need to think about the commons as a process[198] rather than a set of resources[199] in the

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Commoning, DAVID BOLLIER (July 22, 2016), http://bollier.org/blog/new-report-state-power-and-commoning [https://perma.cc/47AK-VGMV]. Benjamin Coriat and Antoine Dolcerocca reminded us that the issue of rights in the commons is crucial. *See* Antoine Dolcerocca & Benjamin Coriat, *Commons and the Public Domain: A Review Article and a Tentative Research Agenda,* 48 REV. RADICAL POL. ECON. 127, 139 (2016). A conceptualization of the commons that focus on the central role of commoners and social movement and their struggle against neoliberal policies is provided by Stefano Rodotà, Ugo Mattei and the other Italian scholars of the constituent of the commons experience. *See generally* Ugo Mattei, *Protecting the Commons: Water, Culture, and Nature: The Commons Movement in the Italian Struggle Against Neoliberal Governance* 112 S. ATLANTIC Q. 366 (2013). *See also* Ugo Mattei & Saki Bailey, *Social Movements as Constituent Power: The Italian Struggle for the Commons,* IND. J. GLOBAL LEGAL STUD. (2013); Ugo Mattei & Alessandra Quarta, *Right to the City or Urban Commoning: Thoughts on the Generative Transformation of Property Law,* 1 ITALIAN L.J. 303 (2015).

197. Foster & Iaione, *supra* note 2.

198. Bollier has highlighted that the commons are a new cultural form, and the discourse on the commons helps people identify new mental maps to represent the current time. David Bollier, *Growth of the Commons Paradigm, in* UNDERSTANDING KNOWLEDGE AS A COMMONS (Elinor Ostrom & Charlotte Hess eds., 2007). The concept of the commons has also been addressed in this perspective by the legal anthropologist Étienne Le Roy, which assumes the centrality of the creation of the commons. Étienne Le Roy, *How I Have Been Conducting Research on the Commons for Thirty Years Without Knowing It,* HEINRICH BOLL STIFTUNG (Jan. 20, 2016), https://www.boell.de/en/2016/01/20/how-i-have-been-conducting-research-commons-thirty-years-without-knowing-it [https://perma.cc/QPR3-QV5D]. Radical political economist Benjamin Coriat helps us frame the question about the commons as a larger question about how we might "commonify" our understanding of public services and goods. Also Benjamin Coriat and Antoine Dolcerocca reflected over the importance of rights in the commons. *See* Antoine Dolcerocca & Benjamin Coriat, *Commons and the Public Domain: A Review Article and a Tentative Research Agend,* 48 REV. RADICAL POL. ECON. 127-39 (2016).

199. Elinor Ostrom defined common-pool resource as a "natural or man-made resource that is sufficiently large as to make it costly (but not impossible) to exclude

city, to focus on the multidimensional character of the commons[200] and to consider many different kind of commons[201] that coexist and interact. An urban pooling strategy is an iterative and dynamic activity of coordination of different governance schemes. We can envision urban pooling as the matching of diverse governance strategies, depending of the most appropriate for the typology of the commons involved and the situation occurring. Ultimately, urban pooling might augment the capacity of the commons by combining resources allocated and dispersed across different actors. Scholars of the commons have conceived pooling as linked to both resources and people: "common pool resources" refer to a "natural or manmade resource system sufficiently large to make it impossible to exclude others from its use.[202] Pooling human capital, efforts, and resources is a crucial feature of the networked economy and the commons, as argued by Yochai Benkler.[203] From the observation of infrastructure commons, either tragic or comedic, we understand how pooling can be a scalar and adaptive strategy to all kinds of commons, especially the most complex ones. One should avoid overly narrowed or dichotomous views in terms of congestion or abundance, and start

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potential beneficiaries from obtaining benefits from its use." OSTROM, *supra* note 152, at 30. She later stated with Hess that shared resource systems, the so-called common-pool resources, are "types of economic goods, independent of particular property rights." UNDERSTANDING KNOWLEDGE AS A COMMONS, *supra* note 183, at 4.

200. Tine de Moor has argued that we should look at the commons from a three-dimensional approach, because a commons is at the same time: a resource, a commons property regime (the ownership regime is neither public nor private), and a common pool institution, which is the institution set up to make that cooperation possible. Tine De Moor, *What Do We Have in Common? A Comparative Framework for Old and New Literature on the Commons,* 57 INT'L REV. OF SOC. HIST. 269 (2012); Tine De Moor, *Avoiding Tragedies: A Flemish Common and its Commoners Under the Pressure of Social and Economic Change During the Eighteenth Century,* 62 ECON. HIST. REV. 1, 10 (2009).

201. Moving the analysis from natural commons and Common Pool Resources to the knowledge commons, Ostrom and Hess have underscored that knowledge is a highly complex resource, with a dual functionality as a human need and an economic good. UNDERSTANDING KNOWLEDGE AS A COMMONS, *supra* note 183, at 4. Madison, Strandburg, and Frischmann define knowledge commons as "an institutional approach (commons) to governing the production, use, management, and/or preservation of a particular type of resource (knowledge)." For them, the term commons does not denote the resource or the community; rather the commons is the institutional arrangement of these elements and their coordination. Madison et al., *Knowledge Commons, supra* note 180. Benkler's work is mainly focused on conceptualization of the growth-oriented, open commons in the networked economy. *See* Benkler, *supra* note 159, at 1513.

202. OSTROM, *supra* note 152.

203. YOCHAI BENKLER, THE WEALTH OF NETWORKS: HOW SOCIAL PRODUCTION TRANSFORMS MARKETS AND FREEDOM (2006).

reflecting on the concept of capacity, focusing attention also on the demand-side of the problem. Through pooling, it is possible to augment the capacity of the commons. We can therefore conceive of the commons as the infrastructures in the city that enable cooperation through pooling.

Pooling enhances the capacity of the urban commons by realizing a dynamic activity of matching and integrating the resources dispersed across the five different actors of the quintuple helix of innovation (i.e. public, private, knowledge, civil society organizations, and the commoners). This requires a deep change for an institutional and legal system based on structural cleavages and separations as well as on formal, one-size-fits-all, hard-to-modify solutions. Future research will probably have to highlight the need for the recognition of a "right to pool" as the most fundamental principle of a body of adaptive, constantly updating, experimental urban law and policies advancing the right to the city through a co-city approach. This calls into question the role of universities and schools as engaged knowledge institutions in developing research and educational frameworks to enable local communities and city governments to pool their efforts, as well as training programs for young professionals and students willing to build a career in urban law and policy or just simply practice urban pooling. As a matter of fact in order to develop the notion and practice of urban pooling it is important to adopt an interdisciplinary approach and therefore collaboration among universities and schools at the urban level might become a critical factor for the establishment of a rights-based city or co-city.