

## PATTERNS OF GROWING EVOLUTIONARY MECHANISMS

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The public backbone is a complete reshaping of public space, which redefines mobility and commercial areas by adjoining the model of the Arab souk to the contemporary urban needs of mixed-use, nonprogrammatic spaces. The induced design of private housing blocks assumes traditional courtyard houses as a reference system that can be redesigned to maximize living density. Starting from these few recurring elements, the range of evolution and metamorphosis of the urban form can be simulated and controlled.

## 6 - DESIGN

### BACKBONES



Street



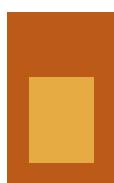
Commercial

### INDUCED DESIGN

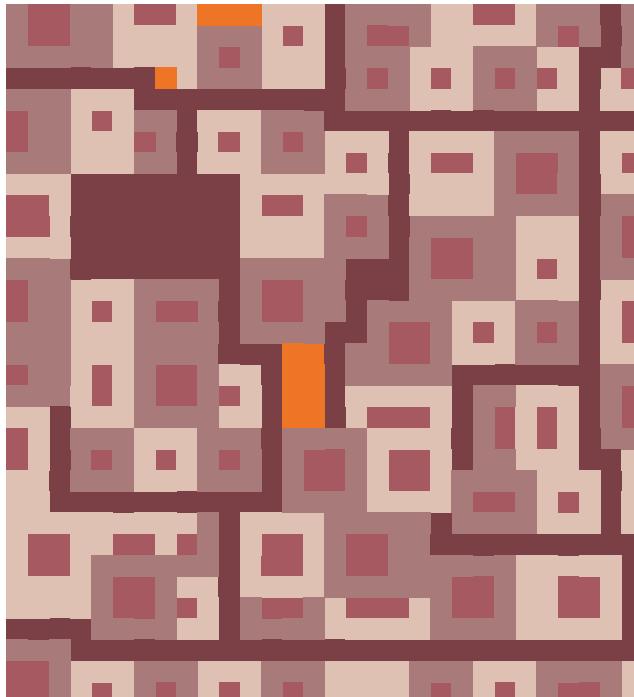
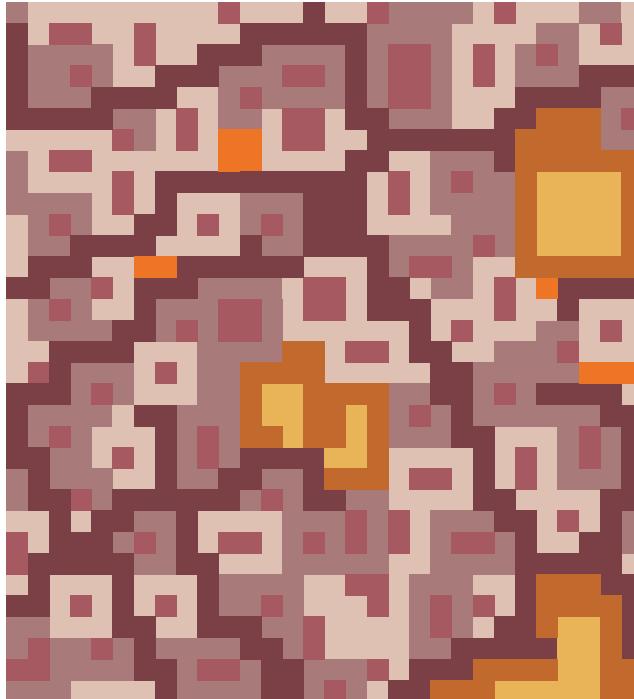
#### Private spaces

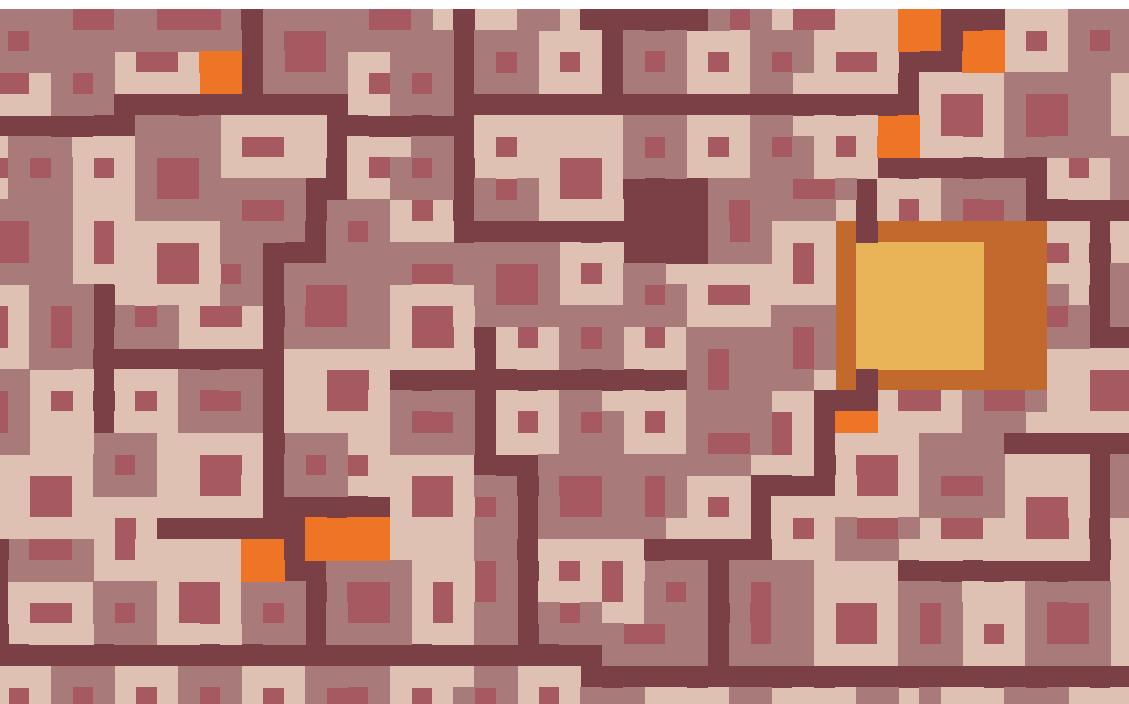
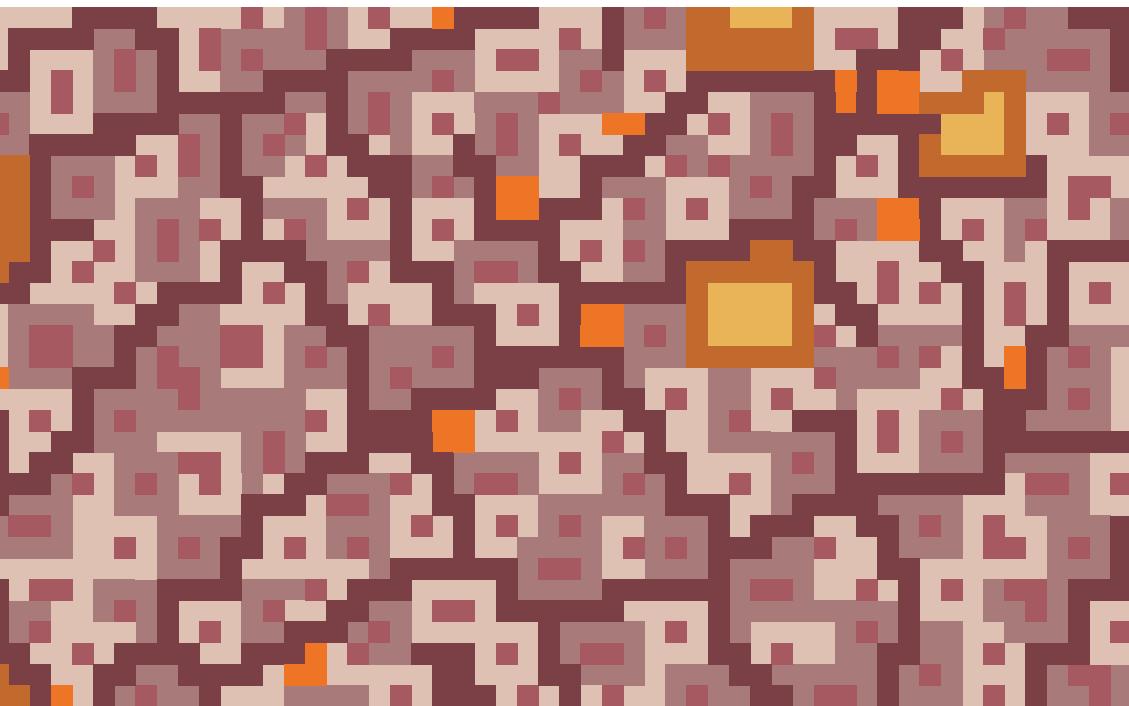
Single-floor module  
+ courtyardMulti-floor module  
+ courtyard

#### Public spaces



Public building





CLOTHES UNDER PRESSURE



# BIBLIOGRAPHY

## Introduction

Dioum, Baba. "Lecture." General Assembly of the International Union for the Conservation of Nature. New Delhi, 1968.

### <sup>1.</sup> GLOBAL CHALLENGES

#### <sup>1.1</sup> The City in the Risk Society

Beck, Ulrich. "The Terrorist Threat: World Risk Society Revisited." *Theory, Culture and Society* 19 (2002), 17–44.

Giannuzzi, Mariaenrica. "Anthropop: Filosofie non tristi per pensare il cambiamento climatico." *Effimera* (2017).

Klein, Naomi. *This Changes Everything: Capitalism vs. the Climate*. New York: Simon & Schuster, 2014.

Leonardi, Emanuele, and Alessandro Barbero. "Il Sintomo Antropocene." Introduction to Jason W. Moore, *Antropocene o Capitalocene? Scenari di ecologia-mondo nell'era della crisi planetaria*, 7–26. Verona: Ombre Corte, 2017.

Žižek, Slavoj. *Living in the End Times*. London: Verso, 2011.

#### <sup>1.2</sup> Urbicide and Violence

Bacevich, Andrew. "Social Work with Guns." *London Review of Books* 13, no. 24 (2009), 7–8.

Bogdanovic, Bogdan. "Murder of the City." *The New York Review* 40, no. 10 (1993), 20.

Caro, Robert. *The Power Broker: Robert Moses and the Fall of New York*. New York: Knopf, 1974.

De Carlo, Giancarlo. "Per Mostar." *Spazio e Società* 77 (January–March 1997), 6–9.

Graham, Stephen. *Cities Under Siege: The New Military Urbanism*. London: Verso, 2010, 85–86.

Hippler, Thomas. *Governing from the Sky: A Global History of Aerial Bombing*. London: Verso, 2014.

Hosseini-Zadeh, Ismael. *The Political Economy of U.S. Militarism*. New York: Palgrave Macmillan, 2006.

Ribarevic-Nikolic, Ivanka, and Zeljko Juric, eds. *Mostar '92 – Urbicide* (Mostar: Hrvatsko vijeće obrane općine Mostar, 1992).

Sewall, Sarah. Introduction to *The U.S. Army/Marine Corps Counterinsurgency Field Manual* (Chicago: University of Chicago Press, 2007).

Shaw, Martin. "New Wars of the City: Relationships of 'Urbicide' and 'Genocide'." In *Cities, War, and Terrorism: Towards an Urban Geopolitics*, edited by Stephen Graham, 141–53. Oxford and Cambridge, MA: Blackwell Publishing, 2005.

Smith, Rupert. *The Utility of Force: The Art of War in the Modern World*. London: Allen Lane, 2005.

#### <sup>1.3</sup> Conflict Recurrence

Ismail, Salwa. *The Rule of Violence: Subjectivity, Memory and Government in Syria*. Cambridge: Cambridge University Press, 2018.

Mbembe, Achille. "Necropolitics." *Public Culture* Winter 15, no. 1 (2003), 11–40.

World Bank. *World Development Report: Conflict, Security and Development*. Washington, DC: World Bank, 2011.

———. *The Toll of War: The Economic and Social Consequences of the Conflict in Syria*. Washington, DC: World Bank, 2017.

———. *Building Peace: Reconstruction for Security, Sustainable Peace and Equity in MENA*. Washington, DC: World Bank, 2020, 9.

#### 1.4 Disasters and Climate Change

Aquilué Jungend, Inés. *Ciudad e Incertidumbre*. Barcelona: Ediciones Asimétricas, 2021.

Avallone, Gennaro. “Il grande balzo del ‘capitalocene’ sulla natura.” *Il Manifesto* (July 7, 2017).

Bertin, Mattia, Francesco Musco, and Lorenzo Fabian. “Rethinking Planning Hierarchy Considering Climate Change as Global Catastrophe.” *Climate Risk Management* 30 (2020).

Birkmann, Joern, and Korinna von Teichman. “Integrating Disaster Risk Reduction and Climate Change Adaptation: Key Challenges—Scales, Knowledge, and Norms.” *Sustainability Science* 5, no. 2 (2010), 171–84.

Crutzen, Paul. “The Anthropocene.” In *Earth System Science in the Anthropocene*, edited by Eckart Ehlers and Thomas Krafft. Berlin and Heidelberg: Springer, 2006.

Forino, Giuseppe, Jason von Meding, and Graham Brewer. “A Conceptual Governance Framework for Climate Change Adaptation and Disaster Risk Reduction Integration.” *International Journal of Disaster Risk Science* 6, no. 4 (2015), 372–84.

Gallopín, Gilberto. “Linkages between Vulnerability, Resilience, and Adaptive Capacity.” *Global Environmental Change* 16, no. 3 (2006), 293–303.

Isenhour, Cindy, Gary McDonogh, and Melissa Checker. *Sustainability in the Global City: Myth and Practice*. New York: Cambridge University Press, 2015.

Klein, Naomi. *This Changes Everything: Capitalism vs. the Climate*. New York: Simon & Schuster, 2014.

McNeill, John, and Peter Engelke. *The Great Acceleration: An Environmental History of the Anthropocene since 1945*. Cambridge, MA: Harvard University Press, 2014.

Moore, Jason. *Anthropocene or Capitalocene?: Nature, History, and the Crisis of Capitalism*. Oakland: PM Press, 2016.

Ramroth, William. *Planning for Disaster: How Natural and Man-Made Disasters Shape the Built Environment*. New York: Kaplan Publisher, 2007.

Robinson, Mary. *Climate Justice: Hope, Resilience and the Fight for a Sustainable Future*. London: Bloomsbury Publishing, 2018.

Sanderson, David, Jerold Kayden, and Julia Leis, eds. *Urban Disaster Resilience: New Dimensions from International Practice in the Built Environment*. New York: Routledge, 2016.

#### 1.5 Social and Economic Risks

Agier, Michel. *Managing the Undesirables: Refugee Camps and Humanitarian Government*. Cambridge: Polity Press, 2011.

Bagaaen, Samer, and Ola Uduku. *Gated Communities: Social Sustainability in Contemporary and Historical Gated Developments*. London: Taylor and Francis, 2012.

Banerjee, Abhijit, and Esther Duflo. *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty*. New York: PublicAffairs, 2011.

Blakeley, Grace. *The Corona Crash: How the Pandemic Will Change Capitalism*. London: Verso, 2020.

Brundtland, Gro Harlem. *Our Common Future*. Oxford: Oxford University Press, 1987.

Consigliere, Stefania, and Cristina Zavaroni. “Come siamo arrivati fin qui? Il contagio di un’idea di salute.” *Giap* (December 7, 2020).

Davis, Mike. *Planet of Slums*. London: Verso, 2005.

De Angelis, Massimo. *Omnia Sunt Communia: On the Commons and the Transformation to Postcapitalism*. London: Zed Books, 2017.

Harvey, David. *Rebel Cities: From the Right to the City to the Urban Revolution*. London: Verso, 2012.

Hess, Charlotte, and Elinor Ostrom. *Understanding Knowledge as a Commons: From Theory to*

- Practice. Cambridge, MA: MIT Press, 2007.
- Kripa, Ersela, and Stephen Mueller. *Fronts: Military Urbanisms and the Developing World*. New York: Applied Research + Design Publishing, 2020.
- Milanović, Branko. *Global Inequality: A New Approach for the Age of Globalization*. Cambridge, MA: Harvard University Press, 2016.
- Mostafavi, Mohsen. *Ethics of the Urban: The City and the Spaces of the Political*. Zurich: Lars Müller Publishers, 2017.
- Ostrom, Elinor. *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge: Cambridge University Press, 1990.
- Putnam, Robert D. *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon & Schuster, 2000.
- Rabbat, Nasser. "The Arab Revolution Takes Back the Public Space." *Critical Inquiry* 39, no. 1 (2012), 198–208.
- Secchi, Bernardo. *La città dei ricchi e la città dei poveri*. Rome and Bari: Laterza, 2013.
- Stein, Samuel. *Capital City: Gentrification and the Real Estate State*. London: Verso, 2019.
- Zetter, Roger, and Camillo Boano. "Making Space and Place after Natural Disasters and Forced Displacement." In *Post Disaster Reconstruction: From Emergency to Sustainability*, edited by Gonzalo Lizarralde, Cassidy Johnson, and Colin Davidson. London: Taylor and Francis, 2010.
- 2. HISTORICAL EXPERIENCES**
- 2.1 Reassessing Reconstruction**
- Allais, Lucia. *Designs of Destruction: The Making of Monuments in the Twentieth Century*. Chicago: University of Chicago Press, 2018, 2.
- Bevan, Robert. *The Destruction of Memory: Architecture at War*. Chicago: University of Chicago Press, 2006.
- Bold, John, Peter Larkham, and Robert Pickard, eds. *Authentic Reconstruction: Authenticity, Architecture and the Built Heritage*. London: Bloomsbury, 2017.
- Cogato-Lanza, Elena, and Patrizia Bonifazio. *Les experts de la reconstruction: Gli Esperti della ricostruzione*. Geneva: Metis Presses, 2009.
- Cohen, Jean-Louis. *Architecture in Uniform: Design and Building for the Second World War*. Montreal: Canadian Centre for Architecture, 2011.
- Coward, Martin. *Urbicide: The Politics of Urban Destruction*. London: Routledge, 2004.
- Diefendorf, Jeffry, ed. *Rebuilding Europe's Bombed Cities*. New York: Palgrave Macmillan, 1990.
- Düwel, Jörn, and Nils Gutschow. *A Blessing in Disguise: War and Town Planning in Europe, 1940–1945*. Berlin: DOM Publishers, 2013.
- Franke, Anselm. *Territories: Islands, Camps and Other States of Utopia*. Berlin: KW Institute for Contemporary Art, 2003.
- Geddes, Patrick, and Gilbert Slater. *Ideas at War*. London: Williams & Norgate (*The Making of the Future series*), 1917.
- Hippler, Thomas. *Governing from the Sky: A Global History of Aerial Bombing*. London: Verso, 2014.
- Iklé, Fred. *Every War Must End*. New York: Columbia University Press, 2005.
- Johnson-Marshall, Percy. *Rebuilding Cities: From Medieval to Modern Times*. Livingston, NJ: Transaction Publishers, 2010.
- Mamoli, Marcello, and Giorgio Trebbi. *Storia dell'Urbanistica: L'Europa del Secondo Dopoguerra*. Rome and Bari: Laterza, 1988.
- Moravánszky, Ákos, ed. *Re-Humanizing Architecture: New Forms of Community, 1950–1970*. Basel: Birkhäuser Verlag, 2016.
- Porteous, Douglas, and Sandra Smith. *Do-micide: The Global Destruction of Home*. Montreal: McGill-Queen's University Press, 2001.
- Shrady, Nicholas. *The Last Day: Wrath, Ruin, and Reason in the Great Lisbon Earthquake of 1755*. London: Penguin, 2009.
- Vale, Lawrence, and Thomas Campanella. *The Resilient City: How Modern Cities Recover from Disaster*. Oxford: Oxford University Press, 2005.

Weizman, Eyal. *The Least of All Possible Evils: Humanitarian Violence from Arendt to Gaza*. London: Verso, 2011.

———. *Forensic Architecture: Violence at the Threshold of Detectability*. New York: Zone Books, 2018.

## **2.2 Transformation Map**

Benevolo, Leonardo. *The Origins of Modern Town Planning*. Cambridge, MA: MIT Press, 1971.

———. “Le due tradizioni dell’architettura contemporanea.” *Casabella* 544 (1988), 50–53.

———. “La percezione dell’invisibile: Piazza San Pietro del Bernini.” *Casabella* 572 (1990), 54–62.

———. *La Cattura dell’Infinito*. Rome and Bari: Laterza, 1991.

———. *San Pietro e la città di Roma*. Rome and Bari: Laterza, 2004.

## **2.3 Classifying Reconstruction**

Brown, Daniel, Stephen Platt, and John Bevington. *Disaster Recovery Indicators: Guidelines for Monitoring and Evaluation*. Cambridge: Cambridge University Centre for Risk in the Built Environment (CURBE), 2010.

Mamoli, Marcello, and Giorgio Trebbi. *Storia dell’Urbanistica: L’Europa del Secondo Dopoguerra*. Rome and Bari: Laterza, 1988.

## **2.4 Unprecedented Scale of Destruction**

Clement, Viviane, Kanta Kumari Rigaud, Alex de Sherbinin, Bryan Jones, Susana Adamo, Jacob Schewe, Nian Sadiq, and Elham Shabahat. *Groundswell Part 2: Acting on Internal Climate Migration*. Washington, DC: World Bank, 2021.

Davis, Mike. “Fear and Money in Dubai.” *New Left Review* 41 (2006), 47–68.

Dougherty, Conor. *Golden Gates: The Housing Crisis and a Reckoning for the American Dream*. New York: Penguin Books, 2021.

Elsheshtawy, Yasser. *Dubai: Behind an Urban Spectacle*. London: Routledge, 2009.

Femia, Francesco, and Caitlin Werrell.

“Syria: Climate Change, Drought, and Social Unrest.” *The Center for Climate and Security* 29 (2012).

Gleick, Peter. “Water, Drought, Climate Change, and Conflict in Syria.” *Weather, Climate, and Society* 6, no. 3 (2014), 331–40.

Harris, Marc, Robert Dixon, Nicholas Melin, Daniel Hendrex, Richard Russo, and Michael Bailey. *Megacities and the United States Army: Preparing for a Complex and Uncertain Future*. Washington, DC: Strategic Studies Group, 2014.

Konaev, Margarita. “The Future of Urban Warfare in the Age of Megacities.” *Focus stratégique* 88 (2019).

Lyons, Kate. “Why Is Indonesia Moving Its Capital City?” *The Guardian*, August 27, 2019.

Manjoo, Farhad. “It’s the End of California as We Know It.” *The New York Times*, October 30, 2019.

Mumford, Lewis. *The City in History: Its Origins, Its Transformations, and Its Prospects*. San Diego: Harcourt, Brace and World, 1961, 116.

Nakate, Vanessa. “We Are Facing the Same Storm, but We Are in Different Boats.” In *Property Will Cost Us the Earth*, edited by Jessie Kindig. London: Verso, 2022.

Parsons, Adam. “Global Warming: The Great Equaliser.” *Share the World’s Resources*, September 1, 2007.

Van Loenhout, Joris, and Regina Below. *The Human Cost of Disasters: An Overview of the Last 20 Years (2000–2019)*. Geneva: UNDRR, 2019.

Zittis, George, Panos Hadjinicolaou, Mansour Almazroui, Edoardo Bucchignani, Fatima Driouech, Khalid El Rhaz, Levent Kurnaz, Grigory Nikulin, Athanasios Ntoumos, Tugba Ozturk, Yiannis Proestos, Georgiy Stenchikov, Rashyd Zaaboul, and Jos Lelieveld. “Business-as-Usual Will Lead to Super and Ultra-Extreme Heatwaves in the Middle East and North Africa.” *Climate and Atmospheric Science* 4, no. 20 (2021).

**3. STRATEGY****3.1 Top Down / Bottom Up**

Banerjee, Banashree, Claudio Acioly, Axumite Gebre-Egziabher, Joan Clos, and Katja Dietrich. *Streets as Tools for Urban Transformation in Slums: A Street-Led Approach to Citywide Slum Upgrading*. Nairobi: UN Habitat, 2012.

Bartling, Hugh. *Sustainable Suburbia? Rethinking the North American Metropolis*. New York: Taylor & Francis, 2014.

Charlesworth, Esther. *Humanitarian Architecture: 15 Stories of Architects Working After Disaster*. New York: Taylor & Francis, 2014.

Heynen, Hilde. *Architecture and Modernity: A Critique*. Cambridge, MA: MIT Press, 1999.

Schwab, James. *Planning for Post-Disaster Recovery: Next Generation*. Chicago: American Planning Association, 2014.

Sennett, Richard. *The Uses of Disorder: Personal Identity and City Life*. New York: Knopf, 1970.

Sendra, Pablo, and Richard Sennett. *Designing Disorder: Experiments and Disruptions in the City*. London: Verso, 2020.

Skinner, Reinhard, Matthew French, Claudio Acioly, and Jane Reid. *A Practical Guide to Designing, Planning, and Executing Citywide Slum Upgrading Programmes*. Nairobi: UN Habitat, 2015.

Tafuri, Manfredo. *Progetto e Utopia: Architettura e Sviluppo Capitalistico*. Rome and Bari: Laterza, 1973.

United Nations Office for Disaster Risk Reduction. *Sendai Framework for Disaster Risk Reduction 2015–2030*. Geneva: United Nations Office for Disaster Risk Reduction, 2015.

**3.2 Cataclysmic Credit / Gradual Credit**

Armendáriz, Beatriz, and Jonathan Morduch. *The Economics of Microfinance*. Cambridge, MA: MIT Press, 2005.

Bowen, Stuart. *Hard Lessons: The Iraq Reconstruction Experience*. Washington, DC: Special Inspector General for Iraq Reconstruction, 2009.

Grima, Simon, Osman Sirkeci, and Kamuran Elbeyoglu. *Global Street Economy and Micro Entrepreneurship*. Bingley: Emerald Publishing Limited, 2020.

Jacobs, Jane. *The Death and Life of the Great American Cities*. New York: Random House, 1961, 293–94.

Olawuyi, Damilola. *Local Content and Sustainable Development in Global Energy Markets*. Cambridge: Cambridge University Press, 2021.

Robinson, James, and Ragnar Torvik. “White Elephants.” *Journal of Public Economics* 89 (2005), 197–210.

Yunus, Muhammad. *Creating a World Without Poverty: Social Business and the Future of Capitalism*. New York: PublicAffairs, 2007.

**3.3 Layers / Cells**

Baker, Lawrence. *The Water Environment of Cities*. New York: Springer, 2009.

Brown, Lester. *Plan B 4.0: Mobilizing to Save Civilization*. New York: Earth Policy Institute, 2009.

Bruegman, Robert. *Sprawl: A Compact History*. Chicago: University of Chicago Press, 2005.

Elcker, Ursula. *Urban Energy Systems for Low-Carbon Cities*. Rotterdam: Elsevier, 2018.

Harris, Richard. “Lawrence A. Herzog: Global Suburbs: Urban Sprawl from the Rio Grande to Rio De Janeiro.” *Building & Landscapes* 22, no. 2 (2015).

Junginger, Sabine. *Transforming Public Services by Design: Re-Orienting Policies, Organizations and Services around People*. London: Taylor and Francis, 2016.

Keucheyan, Razmig. *La nature est un champ de bataille: Essai d’écologie politique*. Paris: Éditions de la Découverte, 2014.

Lozano, Eduardo. *Community Design and the Culture of Cities: The Crossroad and the Wall*. Cambridge: Cambridge University Press, 1990.

Marx, Paris. *Road to Nowhere: What Silicon Valley Gets Wrong about the Future of Transportation*. London: Verso, 2022.

Mumford, Lewis. *The City in History: Its Origins, Its Transformations, and Its Prospects*. San Diego: Harcourt, Brace and World, 1961.

Piacenti, Giulia. "L'idea di unità di quartiere: La ricostruzione della piccola dimensione." PhD diss., Università Iuav di Venezia, 2022.

Rolnik, Raquel. *Urban Warfare: Housing Under the Empire of Finance*. London: Verso, 2016.

### <sup>3\_4</sup> Project / Process

Albrecht, Benno, and Leonardo Benevolo. "La questione del centro archeologico di Roma." *Casabella* 569 (1990), 35–37.

Benevolo, Leonardo. *Metamorfosi della città*. Milan: Libri Scheiwiller, 1996.

Boano, Camillo. *Progetto Minore: Alla ricerca della minorità nel progetto urbanistico ed architettonico*. Siracusa: Lettera 22, 2020, 71.

Gregotti, Vittorio. *Il territorio dell'Architettura*. Milan: Feltrinelli, 1966.

Nicolin, Pierluigi, ed. "Progetto debole / The Weak Design." *Lotus International* 62 (1989).

Sale, Kirkpatrick. *Dwellers in the Land: The Bioregional Vision*. San Francisco: Sierra Club Books, 1985.

Vattimo, Gianni, and Pier Aldo Rovatti. *Il Pensiero Debole*. Milan: Feltrinelli, 1983.

### <sup>3\_5</sup> Reconstruction Laboratory

Abrams, Charles, and Otto Koenigsberger. *Report on Housing in the Gold Coast*. New York: United Nations Technical Assistance Programme, 1956.

———. *Report on Housing in the Philippine Islands*. New York: United Nations Technical Assistance Programme, 1959.

———. *Growth and Urban Renewal in Singapore*. New York: United Nations Technical Assistance Programme, 1963.

Adler, Emanuel, and Michael Barnett. *Security Communities*. Cambridge: Cambridge University Press, 2014.

Alexander, Christopher. *The Production of Houses*. Oxford: Oxford University Press, 1985.

Blewitt, John. *Understanding Sustainable Development*. London: Routledge, 2018.

Caminos, Horacio. *Interim Urbanization Project Dandora, Nairobi, Kenya: A Progressive Development Proposal, Including a Site and Services Model*. Cambridge, MA: Massachusetts Institute of Technology, 1973.

Crane, Jacob Leslie. *La vivienda obrera en Puerto Rico*. Puerto Rico: Oficina Internacional del Trabajo, 1944.

Dini, Massimo. *Renzo Piano: Projects and Buildings, 1964–1983*. Milan: Electa, 1984.

Doshi, Balkrishna. *Balkrishna Doshi: Architecture for the People*. Basel: Vitra Design Museum, 2019.

Habraken, Nicolaas John. *Supports: An Alternative to Mass Housing*. London: Routledge, 1999.

Ismail, Aquila. *The Story of Khuda ki basti: Shelter for the Shelterless*. Karachi: City Press, 2002.

Machado, Rodolfo. *The Favela-Bairro Project: Jorge Mario Jauregui Architects*. Cambridge, MA: Harvard Graduate School of Design, 2003.

Pappalardo, Serena. "Le Origini del Progressivo Development Approach: I paradigmi di una progettazione incrementale." PhD diss., Università Iuav di Venezia, 2021.

Turner, John. *Housing by People: Towards Autonomy in Building Environments*. London: Marion Boyars Books, 1976.

World Bank. *Building Peace: Reconstruction for Security, Sustainable Peace and Equity in MENA*. Washington, DC: World Bank, 2020.

### <sup>3\_6</sup> Operational Phases

Aldrich, Daniel P. "Ties that Bond, Ties that Build: Social Capital and Governments in Post Disaster Recovery." *Studies in Emergent Order* 4 (2011), 58–68.

Environmental Protection Agency (EPA). *America's Water Infrastructure Act: Risk Assessments and Emergency Response Plans*. Washington, DC: EPA, 2018.

- Federal Emergency Management Agency (FEMA). *Four Phases of Emergency Management*. Washington, DC: FEMA, 2020.
- Ireni-Saban, Liza. "Challenging Disaster Administration: Toward Community-Based Disaster Resilience." *Administration & Society* 45, no. 6 (2012), 651–73.
- United Nations General Assembly (UNGA). *Report of the Open-Ended Intergovernmental Expert 2 Working Group on Indicators and Terminology Relating to Disaster Risk Reduction*. New York: UN, 2016, 11.
- United Nations. *Joint Recovery and Peace-building Assessments (RPBAs): A Practical Note to Assessment and Planning*. New York: UN, 2008.
- United Nations Office for Disaster Risk Reduction (UNDRR). *Yokohama Strategy and Plan of Action for a Safer World: Guidelines to Natural Disaster Prevention, Preparedness and Mitigation*. Geneva: UNDRR, 1994.
- . *Sendai Framework for Disaster Risk Reduction 2015–2030*. Geneva: UNDRR, 2015.
- . *UN Global Assessment Report on Disaster Risk Reduction (GAR)*. Geneva: UNDRR, 2019.
- Vaughn, John. "Community Development in a Post-Conflict Context: Fracture and Depleted Social Capital." *Community Development Journal* 46, no. 1 (2011), 51–65.
- 4. SUSTAINABLE TRANSITION**
- 4.1 Exporting the Historical Core**
- Albrecht, Benno, and Anna Magrin. *Esportare il Centro Storico*. Rimini: Guaraldi, 2015.
- Benevolo, Leonardo. *La città e l'architetto*. Rome and Bari: Laterza, 1984, 92.
- . *The European City*. Oxford and Cambridge, MA: Blackwell, 1993, 215.
- Braudel, Fernand. *Storia, misura del mondo*. Bologna: Il Mulino, 1998.
- Halegoua, Germaine. *Smart Cities*. Cambridge, MA: MIT Press, 2020.
- Harvey, David. *Rebel Cities: From the Right to the City to the Urban Revolution*. London: Verso, 2012, 4.
- Lefebvre, Henri. *Le droit à la ville*. Paris: Anthropos, 1968.
- Marino, Marco. "Il progetto della città medievale: Indagine sulla crescita di San Gimignano." PhD diss., Università Iuav di Venezia, 2021.
- Morozov, Evgeny, and Francesca Bria. *Ripensare la smart city*. Turin: Codice Edizioni, 2018, 76.
- Muratori, Saverio. *Studi per una operante storia urbana di Venezia*. Rome: Istituto Poligrafico dello Stato, 1960.
- Raco, Mike, and Federico Savini. *Planning and Knowledge: How New Forms of Technocracy Are Shaping Contemporary Cities*. Bristol: Policy Press, 2019.
- Yamagata, Yoshiki, and Perry Yang. *Urban Systems Design: Creating Sustainable Smart Cities in the Internet of Things*. Amsterdam: Elsevier, 2020.
- 4.2 The Leap Forward**
- Archibugi, Daniele, and Carlo Pietrobelli. "The Globalisation of Technology and Its Implications for Developing Countries: Windows of Opportunity or Further Burden?" *Technological Forecasting and Social Change* 70 (2003), 861–83.
- Asimakopoulou, Eleana, and Nik Bessis. *Advanced ICTs for Disaster Management and Threat Detection: Collaborative and Distributed Framework*. New York: Information Science Reference, 2010.
- Bailard, Catie Snow. "Ethnic Conflict Goes Mobile: Mobile Technology's Effect on the Opportunities and Motivations for Violent Collective Action." *Journal of Peace Research* 52 (2015), 323–37.
- Bookchin, Murray. *Remaking Society*. Montreal: Black Rose Books, 1989.
- De Angelis, Massimo. *Omnia Sunt Communia: On the Commons and the Transformation to Postcapitalism*. London: Zed Books, 2017.
- Fourie, Pieter, Peraphan Jitrapirom, Robert Binder, Michael Tobey, Sergio Ordóñez Medina, Tanvi Maheshwari, and Yoshiaki Yamagata. *Modeling and Design of Smart Mobility Systems*. Amsterdam: Elsevier, 2020.

- Headrick, Daniel. *The Tentacles of Progress: Technology Transfer in the Age of Imperialism, 1850–1940*. Oxford: Oxford University Press, 1988.
- Hensher, David, Corinne Mulley, Chinh Ho, Yale Wong, Göran Smith, and John Nelson. *Understanding Mobility as a Service (MaaS): Past, Present and Future*. Dordrecht and New York: Springer, 2020.
- Izumi, Takako, and Rajib Shaw, eds. *Disaster Management and Private Sectors: Challenges and Potentials*. Tokyo: Springer Japan, 2015.
- Mancini, Francesco. *New Technology and the Prevention of Violence and Conflict*. New York: International Peace Institute, 2013.
- Mathews, Race. *Jobs of Our Own: Building a Stakeholder Society; Alternatives to the Market and the State*. London: Pluto Press, 1999.
- Moss, Stephen. “End of the Car Age: How Cities Are Outgrowing the Automobile.” *The Guardian*, April 28, 2015.
- Ostrom, Elinor. *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge: Cambridge University Press, 1990.
- Pierskalla, Jan, and Florian Hollenbach. “Technology and Collective Action: The Effect of Cell Phone Coverage on Political Violence in Africa.” *The American Political Science Review* 107, no. 2 (2013), 207–24.
- Poblet, Marta. *Mobile Technologies for Conflict Management: Online Dispute Resolution, Governance, Participation*. Dordrecht and New York: Springer, 2011.
- Ramsbotham, Oliver, Hugh Miall, and Tom Woodhouse. *Contemporary Conflict Resolution*. Cambridge: Polity Press, 2011.
- Srnicek, Nick, and Alex Williams. *Inventing the Future: Postcapitalism and a World Without Work*. London: Verso, 2015.
- . “#Accelerate: Manifesto for an Accelerationist Politics.” In *Accelerate: The Accelerationist Reader*. Edited by Robin Mackay and Armen Avanessian. Berlin: Mervin Verlag, 2014, 356.
- United Nations Commission on Science and Technology for Development (UNCTAD). *Bridging the Technology Gap between and within Nations*. Geneva: United Nations, 2006.
- <sup>4\_3</sup> Decentralized Model**
- Archibugi, Daniele. *The Global Commonwealth of Citizens: Toward Cosmopolitan Democracy*. Princeton, NJ: Princeton University Press, 2009.
- Bookchin, Murray. “Libertarian Municipalism: An Overview.” *Green Perspectives* 24 (1991).
- Castoriadis, Cornelius. *La Rivoluzione Democratica: Teoria e progetto dell'autogoverno*. Milan: Eluthera, 2001.
- Dahl, Robert. *Democracy and Its Critics*. New Haven, CT: Yale University Press, 1990.
- Frey, Bruno. “Direct Democracy: Politico-Economic Lessons from Swiss Experience.” *American Economic Review* 84, no. 2 (1994), 338–42.
- Frey, Bruno, and Reiner Eichenberger. “FOCJ: Competitive Governments for Europe.” *International Review of Law and Economics* 16, no. 3 (1996), 315–27.
- . *The New Democratic Federalism of Europe: Functional, Overlapping and Competing Jurisdiction*. Cheltenham: Edward Elgar, 1999.
- Habermas, Jürgen. *The Inclusion of the Other: Studies in Political Theory*. Cambridge, MA: MIT Press, 1998.
- Held, David, and Anthony McGrew, eds. *Governing Globalization: Power, Authority, and Global Governance*. Cambridge: Polity Press, 2002.
- Khanna, Parag. *Connectography: Mapping the Future of Global Civilization*. New York: Random House, 2016.
- Magnaghi, Alberto. *Il progetto locale: Verso la coscienza di luogo*. Turin: Bollati Boringhieri, 2010, 74–75.
- <sup>4\_4</sup> Adaptive Circularity**
- Ellram, Lisa, Lydia Bals, and Wendy Tate, eds. *Circular Economy Supply Chains: From Chains to Systems*. Bingley: Emerald Publishing Limited, 2022.

- Magnaghi, Alberto. *Il progetto locale: Verso la coscienza di luogo*. Turin: Bollati Boringhieri, 2010.
- Putnam, Robert. *Bowling Alone: The Collapse and Revival of American Community*. New York: Touchstone and Simon & Schuster, 2000.
- Sachs, Ignacy. "Environment and Styles of Development." *Economic and Political Weekly* 9, no. 21 (1974), 828–37.
- Schumacher, Ernst Friedrich. *Small Is Beautiful: A Study of Economics as if People Mattered*. London: Blond & Briggs, 1973.
- contemporanea: ovvero il tramonto del paesaggio. Rome and Bari: Laterza, 2006, 188.
- Cederna, Antonio. "Salvaguardia dei Centri Storici e Sviluppo Urbanistico." *Casabella* 250 (1961), 48–55.
- Cervellati, Pier Luigi, Roberto Scanavini, and Carlo De Angelis. *La nuova cultura delle città: la salvaguardia dei centri storici, la riappropriazione sociale degli organismi urbani e l'analisi dello sviluppo territoriale nell'esperienza di Bologna*. Milan: Mondadori, 1977.
- Choay, Françoise. *L'allégorie du patrimoine*. Paris: Seuil, 1992.
- Council of Europe. *European Charter of the Architectural Heritage*. Amsterdam: Congress on the European Architectural Heritage, 1975.
- 5. EXPLORATIONS**
- 5.1 Settlement Principle as a Chance for Urban Metamorphosis**
- Benevolo, Leonardo. "Appropriate Habitat." In *Towards a Quality of Life: The Role of Industrialization in the Architecture and Urban Planning of Developing Countries*; Report of the Proceedings of the Second International Congress of Architects, Persepolis, Iran, 1974, edited by Laleh Bakhtiar, 249–50. Teheran: Ministry of Housing and Urban Development, 1976.
- 5.5 From Hazard to Opportunity: The Controlled Flooding Strategy**
- Held, Isaac, and Brian Soden. "Robust Responses of the Hydrological Cycle to Global Warming." *Journal of Climate* 19 (2006), 5686–99.
- Gombrich, Ernst. "The Beauty of Old Towns." *Architectural Association Journal* 80 (1965), 293–97.
- 5.7 Piecemeal Planning at Work**
- Gombrich, Ernst. "The Beauty of Old Towns." *Architectural Association Journal* 80 (1965), 293–97.
- 6. DESIGN**
- 6.1 Urban Restoration**
- Albrecht, Benno, and Anna Magrin. *Esportare il Centro Storico*. Rimini: Guaraldi, 2015.
- Bandarin, Francesco, and Ron van Oers. *The Historic Urban Landscape: Managing Heritage in an Urban Century*. Hoboken, NJ: John Wiley & Sons, 2012.
- Benevolo, Leonardo. *L'architettura nell'Italia contemporanea: ovvero il tramonto del paesaggio*. Rome and Bari: Laterza, 2006, 188.
- Cederna, Antonio. "Salvaguardia dei Centri Storici e Sviluppo Urbanistico." *Casabella* 250 (1961), 48–55.
- Cervellati, Pier Luigi, Roberto Scanavini, and Carlo De Angelis. *La nuova cultura delle città: la salvaguardia dei centri storici, la riappropriazione sociale degli organismi urbani e l'analisi dello sviluppo territoriale nell'esperienza di Bologna*. Milan: Mondadori, 1977.
- Choay, Françoise. *L'allégorie du patrimoine*. Paris: Seuil, 1992.
- Council of Europe. *European Charter of the Architectural Heritage*. Amsterdam: Congress on the European Architectural Heritage, 1975.
- 6.2 Urban Triggers**
- Alexander, Christopher. *Notes on the Synthesis of Form*. Cambridge, MA: Harvard University Press, 1964.
- Gombrich, Ernst. *Reflections on the History of Art*. Oxford: Phaidon, 1987, 201.
- Fry, Edwin Maxwell, and Jane Drew. *Tropical Architecture in the Dry and Humid Zones*. London: Batsford, 1964.
- Popper, Karl. *The Poverty of Historicism*. London: Routledge & Kegan Paul, 1957, 66–67.
- 6.3 Backbones**
- Banerjee, Banashree, Claudio Acioly, Axumite Gebre-Egziabher, Joan Clos, and Katja Dietrich. *Streets as Tools for Urban Transformation in Slums: A Street-Led Approach to Citywide Slum Upgrading*. Nairobi: UN Habitat, 2012.
- Bernoulli, Hans. *Die Stadt und Ihr Boden*. Zurich: Verlag für Architektur, 1946.
- Haeffele, Stefanie, and Alexander Wade Craig. "Commercial Social Spaces in the Post-Disaster Context." *Journal of Entrepreneurship and Public Policy* 9, no. 3 (2020), 303–17.
- Hallaj, Abdulaziz. "Syrian Cities and the

Challenges of Reconstruction.” In *Syria—The Making of the Future: From Urbicide to the Architecture of the City*, edited by Jacopo Galli, 71–97. Venice: Incipit Editore, 2018.

Kanigel, Robert. *Eyes on the Street: The Life of Jane Jacobs*. New York: Random House, 2016.

Narne, Edoardo, and Angelo Bertolazzi. *Abitare intorno a un vuoto: Le residenze a patio dalle origini al contemporaneo*. Venice: Marsilio, 2012.

Skinner, Reinhard, Matthew French, Claudio Acioly, and Jane Reid. *A Practical Guide to Designing, Planning, and Executing Citywide Slum Upgrading Programmes*. Nairobi: UN Habitat, 2015.

Torre, André, and Delphine Gallaud, eds. *Handbook of Proximity Relations*. Cheltenham: Edward Elgar, 2022.

#### **6.4 Induced Design**

Benevolo, Leonardo. *La Casa dell’Uomo*. Rome and Bari: Laterza, 1976.

d’Alfonso, Maddalena, and Jacopo Galli. “The Mantra of Modernity.” In *Sustainable Urban Development and Globalization: New Strategies for New Challenges—with a Focus on the Global South*, edited by Agostino Petrillo and Paola Bellaviti, 209–20. Berlin and Heidelberg: Springer, 2016.

Fanelli, Giovanni, and Roberto Gargiani. *Auguste Perret*. Rome and Bari: Laterza, 2002.

Galli, Jacopo. *Tropical Toolbox: Fry and Drew and the Search for an African Modernity*. Siracusa: Lettera 22, 2019.

Illich, Ivan, John McKnight, Irving Zola, Jonathan Caplan, and Harley Shaiken. *Disabling Professions*. London: Marion Boyars Publishers, 1977.

Lemoine-Rodríguez, Richard, Luis Inostroza, and Harald Zeppa. “The Global Homogenization of Urban Form: An Assessment of 194 Cities across Time.” *Landscape and Urban Planning* 204 (2020).

Rudofsky, Bernard. *Architecture Without Architects: An Introduction to Non-Pedigreed Architecture*. New York: MoMA, 1964.

#### **6.5 Growing Evolutionary Mechanisms**

Allen, Linda. *An Introduction to Mathematical Biology*. Upper Saddle River, NJ: Pearson Prentice Hall, 2007.

Batty, Michael. *The New Science of Cities*. Cambridge, MA: MIT Press, 2013.

Rossi, Francesco, Massimo Fornasier, and Benedetto Piccoli. “Mean-Field Sparse Optimal Control.” *Phil. Trans. R. Soc.* 372 (2014).

Rossi, Francesco, Giacomo Albi, Mattia Bonzini, and Francesco Solombrino. “Leader Formation with Mean-Field Birth and Death Models.” *M3AS: Math. Models Meth. Appl. Sc.* 29 (2019), 633–79.

# CREDITS

## INTRODUCTION

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## <sup>1</sup> GLOBAL CHALLENGES

### • Urbicides 1936–2023

Drawing by Andrea Fantin,  
Urbicide Task Force.

Sources:

Afghanistan: <https://populationstat.com/> (accessed 01/2023).  
Austria: Bevölkerung von Wien 1590–2014 - mit Aktualisierung bis Q4 2016. Eigenes Werk, Statistischen Mitteilungen der Stadt Wien (Heft 4/2000) Statistik Austria. Statistisches Jahrbuch 2009. [https://de.wikipedia.org/wiki/Wien#/media/Datei:Population\\_of\\_Vienna.svg](https://de.wikipedia.org/wiki/Wien#/media/Datei:Population_of_Vienna.svg)  
Bosnia and Herzegovina: Državni zavod za statistiku Republike Bosne i Hercegovine. "Nacionalni sastav stanovnistva. Nacionalni sastav stanovništva. Rezultati za republiku po opštinama i naseljenim mjestima 1991."

Statistički Biltén no. 234 (1993), 7-76. <https://fzs.ba/wp-content/uploads/2016/06/nacionalni-sastav-stanovnistva-po-naseljenim-mjestima-bilten-234.pdf>  
China: Nanjing: Tokushi cho, Kasahara and Tokushi Kasahara. 南京事件 [The Nanking Incident]  
Tokyo: Iwanami Shoten, 1997.  
Shanghai: Henriot Christian Lu Shi and Charlotte Aubrun. *The Population of Shanghai (1865-1953): A Sourcebook*. Leiden: Brill, 2019. <https://brill.com/view/title/36402>; <http://www.chinarhyming.com/2015/06/14/the-1936-shanghai-census-three-and-a-half-million-folk/>  
Guangzhou: Webster's Geographical Dictionary. Springfield: G. & C. Merriam Co., 1960.  
Chongqing: <http://www.cqdfz.cn/> (accessed 01/2023).  
Croatia: <https://dzs.gov.hr> (accessed 01/2023).  
Estonia: Statistische Monatshefte für den Generalbezirk Estland no. 1-2, 43 (1942). <https://www.ra.ee/tuna/en/registration-of-the-population-in-estonia-on-1-december-1941-back>

ground-organisation-sources/; <https://www.tallinn.ee/en/history-tallinn#:~:text=The%20population%20of%20Tallinn%20decreased,145%20000%20to%20127%20000>.  
Finland: <https://stat.fi/> (accessed 01/2023).  
France: <http://cassini.ehess.fr/> (accessed 01/2023).  
Germany: <https://de.wikipedia.org/> (accessed 01/2023).  
Great Britain: <https://www.ons.gov.uk> (accessed 01/2023).  
Greece: Biris, Kostas. *Athen from the 19th to the 20th Century*. Athens: Kathydrima Poleodomias kai Istorias ton Athinon, 1966.  
Clogg, Richard. *A short history of modern Greece*. Cambridge University Press, 1986.  
Darques, Régis. *Salonique au XXe siècle: de la cité ottomane à la métropole grecque*. CNRS, 2000.  
Gerontas, D., and D. Skouzes. *The chronicle of watering Athens*. Athens, 1963, 62–63.  
Kalantzopoulos, T. *The history of water supply of Athens*. Athens: Palamari Kathrogianni, 1964.  
Koliopoulos, Giannēs, John S. Ko-

- liopoulos, and Thanos M. Veremis. Greece: *The modern sequel, from 1831 to the present*. NYU Press, 2002.
- Hungary: *Budapest székes-fovaros statisztikai évkönyve 1944–1946* [Statistical Yearbook of Budapest, 1944–1946]. Budapest: Budapest Székesfővaros Statisztikai Hivatala, 1948.
- Katalin, Csapó and Karner Katalin. *Budapest az egyesítéstől az 1930-as évekig* [Budapest from the unification to the 1930s]. Budapest: Utmutató Kiadó, 1999.
- Iraq: <https://populationstat.com/> (accessed 01/2023).
- Israel: <https://populationstat.com/> (accessed 01/2023).
- Italy: <https://www.istat.it> (accessed 01/2023).
- Japan: Reikichi, Kojima, and Edwin G. Beal. "The Population of the Prefectures and Cities of Japan in Most Recent Times." *The Far Eastern Quarterly* 3, no. 4 (1944), 313–61.
- Kuwait: <https://populationstat.com/> (accessed 01/2023).
- Lebanon: <https://populationstat.com/> (accessed 01/2023).
- Libya: <https://populationstat.com/> (accessed 01/2023).
- Myanmar: <https://populationstat.com/> (accessed 01/2023).
- Netherlands: <https://www.cbs.nl/> (accessed 01/2023).
- Palestine: <https://populationstat.com/> (accessed 01/2023).
- Philippines: <https://populationstat.com/> (accessed 01/2023).
- Poland: <https://statlibr.stat.gov.pl/> (accessed 01/2023); Polish academy of sciences committee for demographic studies. *The population of Poland*. Warsaw: Polish Scientific Publishers, 1975.
- Russia: <http://www.demoscope.ru/> (accessed 01/2023).
- Serbia: <https://populationstat.com/> (accessed 01/2023).
- Spagna: *Ashes and granite: destruction and reconstruction in the Spanish Civil War and its aftermath* / Muñoz-Rojas, Olivia (2011);
- Syria: <https://populationstat.com/> (accessed 01/2023).
- Ukraine : 2021 Чисельність наявного населення України на 1 січня [2021 Number of Present Population of Ukraine, as of January 1]. Kyiv: State Statistics Service of Ukraine, 2021. <https://www.citypopulation.de/> (accessed 01/2023)
- Vietnam: <https://populationstat.com/> (accessed 01/2023).
- Yemen: <https://populationstat.com/> (accessed 01/2023).
- Romania: Radu, Sageata. "Bucharest. Geographical and geopolitical considerations." *Revista Romana de Geografie Politica X* (2015): 37–56. Populația republicii populare romane. La 25 ianuarie 1948. Rezultatele provizorii ale recensământului. <https://web.archive.org/web/20200410172753/> <https://sas.unibuc.ro/storage/downloads/analize-regionale-9/> AG48a.RECENSAMANT48.pdf
- Violence 2018–2021**  
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Source: Armed Conflict Location & Event Data Project (ACLED), <https://acleddata.com> (10/2022).
- Disasters 2020–2021**  
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- Inequality 2009–2019**  
Drawing by Andrea Fantin, Urbicide Task Force. Source: local surveys directed by national statistical center of each selected country or reports.
- Anguilla: Kairi Consultants Limited in collaboration with the National Assessment Team of Anguilla. *Final report Country Poverty Assessment Anguilla 2007/2009*. Country level, 2010.
- Antigua and Barbuda: Sir Arthur Lewis Institute of Social and Economic Studies (SALISES), country level, 2010.
- Aruba: Central Bureau of Statistics, country level, 2019.
- Bahamas: Bahamas National Statistical Institute, regional level, 2013.
- Barbados: Inter-American Development Bank (IDB), country level, 2016.
- Belize: Statistical Institute of Belize, country level, 2018.

Bonaire, St. Eusta, Saba: CBS Statistics Netherlands, country level, 2016.	<i>Global Assessment Report on Disaster Risk Reduction Guadeloupe. 2015</i>	Lewis Institute of Social and Economic Studies (SALISES), country level, 2011.
Brazil: IVS Atlas da Vulnerabilidade Social, country level, 2011.	Guatemala: Instituto Nacional de Estadística (INE), regional level, 2014.	Saint Lucia: PovcalNet - World Bank, country level, 2016.
British Virgin Island: Government of the Virgin Islands. <i>Virgin Islands 2010 Population and Housing Census Report</i> . Country level, 2010.	Guyana: Unidad de Estudios de Políticas Económicas y Sociales del Caribe (UEPESC), country level, 2007.	Saint Vincent and the Grenadines: Sir Arthur Lewis Institute of Social and Economic Studies (SALISES), country level, 2008.
Cayman Islands: United Nations Office for the Coordination of Humanitarian Affairs (OCHA), country level, 2022.	Haiti: Jadotte, Evans. "Characterization of inequality and poverty in the Republic of Haiti." <i>Estud soc.</i> 29 (2022), 7–56.	Trinidad and Tobago: World Bank, Poverty and Inequality Platform, Gini Index. Washington, DC: World Bank, 1992.
Colombia: Departamento Administrativo Nacional de Estadística (DANE), department level, 2016.	World Bank, Poverty and Inequality Platform, Gini Index. Washington, DC: World Bank, 2012.	United States of America: US Census Bureau, county level, 2020.
Costa Rica: Instituto Nacional de Estadística y Censos (INEC), regional level, 2021.	Honduras: Instituto Nacional de Estadística (INE), regional level, 2018.	Venezuela: Instituto Nacional de Estadística (INE), regional level, 2013.
Dominican Republic: Ministerio de economía, planificación y desarrollo. <i>Boletín de estadísticas oficiales de pobreza monetaria en república dominicana 2021</i> . Santo Domingo: Oficinas Gubernamentales, 2021, 9.	Jamaica: Statistical Institute of Jamaica (STATIN), regional level, 2017.	<b>2- HISTORICAL EXPERIENCES</b>
Ecuador: Instituto Nacional de Estadística y Censos (INEC). Compendio de Resultados Encuesta Condiciones de Vida ECV Sexta Ronda 2015. Quito: Instituto Nacional de Estadística y Censos, 2015.	Martinique: Institut National de la statistique et des études économiques (INSEE), country level, 2013.	• Transformation Map Example [Dresden]
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Torino: Redrawing by Martina Bortolotti, Pietro Calusi, Giorgia Pizzanelli, edited by Alessia Cane, Giulia Piacenti, Ambra Tieghi.		
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Valparaiso: Redrawing by Silvia Bidinotto, Giulia Bordignon, Rebecca Traniello Gradassi, edited by Alessia Cane, Giulia Piacenti, Ambra Tieghi.	Drawing by Sabrina Righi, Urbicide Task Force. Source: World Bank. <i>Building for Peace: Reconstruction for Security, Sustainable Peace and Equity in MENA</i> . Washington, DC: World Bank, 2020.	Aleppo redrawing by Dante Bisutti, Margherita Cisamolo, Carolina Coltelli, Gianmarco Ippino, Silvia Marchetti, Annalisa Moser, Ilaria Pezzini, Giulia Piacenti, Elisa Vendemini, Rossella Villani.
Venzone: Redrawing by Chiara Semenzin, edited by Alessia Cane, Giulia Piacenti, Ambra Tieghi.	<b>• Top Down / Bottom Up</b>	Mariupol redrawing by Serena Pappalardo, Elisa Vendemini, Urbicide Task Force. Source: UADamage. Updated 10/2022.
Warsaw: Redrawing by Francesca Angius, Sara Lievi, Ilaria Pani, edited by Alessia Cane, Giulia Piacenti, Ambra Tieghi.	<b>• Media Attention, Credit &amp; Economic Growth</b>	Valparaiso redrawing by Serena Pappalardo, Elisa Vendemini, Urbicide Task Force. Source: SECPLA, Municipalidad Valparaíso, 2014.
Wien: Redrawing by Alessia Borgato, Sergiu Cristea, Matteo Piva, edited by Alessia Cane, Giulia Piacenti, Ambra Tieghi.	Drawing by Elisa Vendemini, Urbicide Task Force. Source: Baas, Stephan, Selvaraju Ramasamy, Jenny Dey DePryck and Federica Battista. <i>Disaster Risk Management System Analyses. A Guide Book</i> . Roma: FAO, 2008.	<b>• From Sprawl to Cells</b>
Wroclaw: Redrawing by Elisa Bernard, Elisa Ciuffi, edited by Alessia Cane, Giulia Piacenti, Ambra Tieghi.	United Nations and World Bank. <i>Pathways for Peace: Inclusive Approaches to Preventing Violent Conflict</i> . Washington, DC: World Bank, 2018.	Mosul destruction redrawing by Serena Bolzan, Federica Bresin, Filippo Cracco, Matteo De Bernardini, Giorgia Dal Bianco, Caterina Delaini, Alessandro Dini,

Matilde Dufour, Davide Fabrello, Elisa Franceschetti, Nicolò Genovese, Alessia Giampaolino, Filippo Giancola, Francesco Martini, Sabrina Righi, Andrea Russo, Marco Santoni, Akira Sato, Maria Concetta Savignano, Giulia Simonetto, Giorgia Soini, Giorgio Trivellin, Marco Turcato, Stefano Zugno, edited by Serena Pappalardo, Urbicide Task Force. Mosul cells process and final urban form by Serena Pappalardo, Urbicide Task Force.

#### • Advantages

Drawing by Sabrina Righi, Urbicide Task Force. Source: World Bank. *Building for Peace: Reconstruction for Security, Sustainable Peace and Equity in MENA*. Washington, DC: World Bank, 2020.

#### • Phases of Emergency

Drawing by Elisa Vendemini, Urbicide Task Force. Source: Federal Emergency Management Agency (FEMA). *Four Phases of Emergency Management*. Washington, DC: FEMA, 2020.

#### 4- SUSTAINABLE TRANSITION

##### • Features of the Historical Core

Drawing by Ambra Tieghi, Urbicide Task Force. Source: Alberto Bertollo, Greta Cattelan, Rosa Da Boit, Simone Dalla Rosa, Piera Favaretto, Roberto Ferraresi, Marco Marino, Alessandro Rossi, Giacomo Savegnago, Carolina Scorsone, Chiara Semenzin, Debora Tarzia. *Restauro Urbano*

*Sostenibile: Nuove Strategie per i Centri Storici*. MA theses, Università Iuav di Venezia, 2017.

#### • Filling the Technological Gap: The Leap Forward

Drawing by Sabrina Righi, Urbicide Task Force. Source: Ragette, Friedrich. *Traditional Domestic Architecture of the Arab Region*. Fellbach Vereinigte Arabische Emirate: Edition Axel Menges American University of Sharjah, 2003, 252.

#### • Models of Decentralized Administration

Drawing by Chiara Semenzin, Urbicide Task Force. Source: Frey, Bruno, and Reiner Eichenberger. *The New Democratic Federalism of Europe: Functional, Overlapping and Competing Jurisdiction*. Cheltenham: Edward Elgar, 1999.

#### • Circular Scenarios

Drawing by Sabrina Righi, Urbicide Task Force. Based on a design by Urbicide Task Force, consultants Enrico Guastaroba, Luca Panzeri.

#### 6- DESIGN

##### • Urban Restoration Tools

Drawing by Chiara Semenzin, Urbicide Task Force. Source: Leonardo Benevolo, Pier Luigi Cervellati, Italo Insolera con Ufficio Centro Storico della Ripartizione Urbanistica del Comune di Palermo. *Piano Particolareggiato Esecutivo Centro Storico*. Comune di Palermo,

mo, Assessorato all'Urbanistica e centro storico, 1989.

#### • Urban Restoration Table

Drawing by Ambra Tieghi, Alessia Cane, Urbicide Task Force. Source: Giulia Piacenti. *Sustainable Reconstruction for Aleppo*. MA thesis, Università Iuav di Venezia, 2016.

#### • Urban Triggers: Backbones

Drawings by Ambra Tieghi and Alessia Cane, Urbicide Task Force. Sources: Giulia Piacenti. *Sustainable Reconstruction for Aleppo: Historical core*. MA thesis, Università Iuav di Venezia, 2016; Maria Giulia Pistonese. *Urbicide Rural Syria: Reconstruction of villages*: Adnaniyah. MA thesis, Università Iuav di Venezia, 2018; Leonardo Brancaleoni. *Urbicide Rural Syria: Reconstruction of villages*: Sheran. MA thesis, Università Iuav di Venezia, 2018; Matteo Bertazzon, Davide Bertin and Simone Giacchetto. *Charbagh City: Towards a Sustainable City*. MA thesis, Università Iuav di Venezia, 2019; Matilde Dufour and Alessia Giampaolino. *Urbicide Mosul: Triggers for reconstruction: Productive orography*. MA thesis, Università Iuav di Venezia, 2019; Matteo De Bernardini, Elisa Franceschetti and Maria Concetta Savignano. *Urbicide Mosul: Triggers for reconstruction: Informal structure*. MA thesis, Università Iuav di Venezia, 2019.

**• Urban Triggers:****Induced Design**

Drawings by Ambra Tieghi,  
Urbicide Task Force. Sources:  
Maddalena Meneghelli, Antonio  
Signori and Sonia Zucchelli. *Urbicide Rural Syria: Reconstruction  
of villages: Al Jobeh – Jrajeer.* MA  
thesis, Università Iuav di Venezia,  
2018; Filippo Cracco and Filippo  
Giancola. *Urbicide Mosul: Triggers  
for reconstruction: Borders Redefinition.* MA thesis, Università Iuav  
di Venezia, 2019; Dario Perissinotto. *Ukraine Reconstruction: The  
case of Irpin.* MA thesis, Università  
Iuav di Venezia, 2023

**• Patterns of Growing****Evolutionary Mechanisms**

Drawing by Sabrina Righi, Elisa  
Vendemini, Urbicide Task Force.  
Source: mathematical elaborations  
on the urban pattern of  
Tripoli, Cairo, Hamburg, Lübeck,  
Tripoli carried out by Francesco  
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