Densification, Social Distance, and The City / Prima Abdullah Surya

By the time this article is written, most part of the world is on a global quarantine, either by self-imposed or forced. It's hard to see how the future will be the same as before. Having the benefit of hindsight of past pandemic, we can characterize two outcomes to this current event. First, the social implication will be a permanent condition; the new normal, where we have to rethink the shape of our society. And its most slowly affected derivation: urban design. The second possible outcome might be there will be no change, either because the pandemic is not significant enough, or the changes are already ongoing. In the second outcome, quarantine is merely a hindrance. We will look into two cases: the 1846 Broad Street cholera outbreak and the 1918 Spanish flu.

The paper will look into each pandemic and learn what outcome most likely to happen for this current pandemic.

The London Cholera Outbreak.
At the time the illness spread with the limited knowledge of how disease spread. The working theory was bad air pollution or miasma. Not until one doctor, John Snow started to investigate how all the sick were taking their water from one single water pump, the prevailing theory was slowly replaced. The waterpump turned out to have feces contamination from surrounding residents.

London in 1846 had no city sewage system. All of the household waste was contained in their own building. Landlords hired Night-soil men to remove overflowing cesspools.[1]

The Broad Street cholera outbreak was considered to push the improvement towards sanitation facilities and helped usher in revolved around density, capitalizing on the advantages of dense urban living while minimizing the dangers. The district crowded two hundred people per acre, more than Manhattan today-- even with its skyscraper, which only housed 100 people per acre.

Today, we see density not as a possibility, but as a necessity. Fresh water supply, drainage, and wastewater systems, analogous to blood vessels found in an organism, allows cities to grow. The city sanitation that we take for granted today, was a response to the cholera outbreak.[2]

The Spanish Flu
Counterintuitive to its name, the Spanish flu possibly started in a UK staging troop in Étaples, France during WWI.[3] About 500 million people, or a third of the world population was infected.

[1] Johnson, Steven. "The Ghost Map: The Story of London's Most Terrifying Epidemic – and How it Changed Science, Cities and the Modern World" Riverhead Books. 2006.
[2] Johnson, Steven. "The Ghost Map: The Story of London's Most Terrifying Epidemic – and How it Changed Science, Cities and the Modern World" Riverhead Books. 2006.
[3] Valentine, Vikki. "Origins of the 1918 Pandemic: The Case for France" NPR. February 20. 2006.https://www.npr.org/templates/story/story.php?storyId=5222069

The most affected were rural and isolated communities, since their immunity hasn't been built by past diseases. Urban communities on the other hand who had previously been exposed to similar diseases had developed similar immunity that would make them impervious to spanish flu.[4] Less than 1 in 100 city dwellers died, while isolated communities up to 9 out of 10 died.[5]

A leading theory is that there were H1-like viruses circulating in the period before the last major pandemic, the Russian pandemic of 1889-90. Some viruses circulating prior to 1889 may therefore have been related to the virus that caused the Spanish flu in 1918, A (H1N1). This would mean that some people who were older than 28 to 30 years in 1918 may have had some protection against severe infection and death from Spanish flu because of previous exposure to similar viruses.[6]

Similar cases where less dense society was detrimental to the general immunity was the American colonization.Europeans having been exposed to various disease in the past has a better immunity than the natives against smallpox. The spread of diseases that were not already present in the new world weakened the natives' bigger population and eventually led to the downfall of their empire.

Densification.
Both of the examples provided above seem to be supporting arguments for densification. Unlike current Covid-19 cases which encourage social distancing, or less densification. However, these examples are the exception and not the case. Most pandemics grow faster in a denser city. Urban life is a petri dish where people live in close quarters and perhaps also disease carrying animals. During the Black Plague, the cosmopolitan center of Italy suffered more than Poland or other less dense parts of Europe.[7]

Covid-19 started in Wuhan, China with a population of 19 million. A respiratory disease, it spreads by means of close contact, often via small droplets produced by coughing, sneezing, or even talking. It's only logical to disaggregate city planning in the future.

However, spreading the city is not the most elegant solution. The first reason is that densification means a more efficient infrastructure, i.e. hospital, roads, internet connection. Densification means the public fund can be utilized to cater more people.

The second reason, densification also means bigger economic and social opportunities. It's hard to find a specialized expert, a specific type of performance, or even chain store in a smaller

[4] Mamelund, Svenn-Erik. "Geography May Explain Adult Mortality from the 1918–20 Influenza Pandemic" Epidemics Volume 3 issue 1. march 2011. pages 46-60
[5] "In 1918 Flu Pandemic, Mortality in Urban and Isolated Rural Areas Varied" Infection Control Today. April 27, 2011. https://www.infectioncontroltoday.com/infections/1918-flu-pandemic-mortality-urban-and-isolated-rural-areas-varied
[6] "In 1918 Flu Pandemic, Mortality in Urban and Isolated Rural Areas Varied" Infection Control Today. April 27, 2011. https://www.infectioncontroltoday.com/infections/1918-flu-pandemic-mortality-urban-and-isolated-rural-areas-varied
[7] McNeill, William H. "Plagues and People" Anchor Press. 1976

population. Business can only open to a certain number of people to sustain itself. There is a reason why an Apple Store may never open in a small city.

And last, densification is a better tool to prevent climate change. Denser city means better public transportation system--less usage of personal vehicles. And less building footprint per person, which lead to smaller heating, lighting, and general usage per person

However, densification also has its own caveat. Due to higher housing demand, denser cities have more expensive properties. It has reached a certain point where it can't sustain the middle class. As cities like New York[8], London[9], or even Singapore[10] attracting more wealth, housing prices rose and having families with school-age is no longer financially feasible. It's no longer affordable for the middle class to own property and raise a family.

Moreover, progress in digital technology has made feasible bigger companies to have more affluent residents taking advantage of remote working capabilities and moving to smaller towns and countryside settlements offering cheaper property and a higher quality of life. In the future, 3D printing will allow companies to run smaller manufacturing units closer to customers, tailoring products more to the local taste. Service robotics will bring down the cost of labor, perhaps affording stores similar to Apple to open in a smaller city. While autonomous driving will lower the distribution cost.[11]

Densification against Disaggregation
There are two good means of city development: densification, the push towards cities becoming more concentrated and disaggregation, the spreading out of populations.[12] These two means are not a new tool developed in times of Covid-19. Urban planners have always faced this tension from before the times of Covid-19.

These two tools are not mutually exclusive, designers can utilize the efficiency and sustainability given by densification while also addressing trends due to disaggregation: progress and property's cost. Progress may be the driving force to disaggregation, but it is not an opposing force to densification. An urban life can still benefit from 3d printing, service robotics, and autonomous driving.

[8] Tanxi, Alexander, "New York City's Population Is Shrinking: Demographic Trends" Bloomberg. April 18, 2019. https://www.bloomberg.com/news/articles/2019-04-18/new-york-city-s-population-is-shrinking-demographic-trends
[9] Belcher, Erica. "Here are five maps showing how London's population is changing" CityMetric. August 28, 2018. https://www.citymetric.com/politics/five-maps-showing-london-s-population-changing-demographics-languages-immigration-4154
[10] Tan, Theresa. "Fewer births, more deaths as Singapore population ages" Straitstimes. July 13, 2018. https://www.straitstimes.com/singapore/fewer-births-more-deaths-as-singapore-population-ages
[11] Harris, K Schwedel, A, Kimson, A. "Spatial Economics: The Declining Cost of Distance" Bain.com February 10, 2016. https://www.bain.com/insights/spatial-economics-the-declining-cost-of-distance/
[12] Shenker, Jack. "Cities after coronavirus: how Covid-19 could radically alter urban life" The Guardian. March 26, 2020. https://www.theguardian.com/world/2020/mar/26/life-after-coronavirus-pandemic-change-world

While the hiking cost of property may be catalyzed by the high demands of land ownership due to densification, it's not an indication of its level of vacancy. Half of the Manhattan luxury-condo units that have come into the market in the past five years are still unsold.[13] At the same time, 80 thousand homeless are living in shelters. The blame is not in densification; the blame is in its regulatory system. Regulating unused dwelling to be more productive, can help lower the rising property cost.

As for the city relationship with the pandemic. Covid-19 may not affect the needs for urban densification in the future. The requirement for social distancing can not cancel the benefit of nor it was caused by densification. And the alluring notion that bigger cities drive the process of cross-pollinating ideas will not go away any time soon. Today cities housed half of the world population, growing from only 10% in 1900[14], and it will grow further to two-thirds of the global population in 2050[15]. The drive to urbanize is an ongoing irreversible force since the agricultural revolution, and it will continue long after this writing is published. The pandemic may decelerate densification, but it will not end it.

[13] Chen, Stefanos. "The Decade Dominated by the Ultraluxury Condo" NYTimes. Jan 10, 2020.
https://www.nytimes.com/2020/01/10/realestate/new-york-decade-real-estate.html
[14] Burdett, Ricky. "The Endless City: The Urban Age Project by the London School of Economics and Deutsche Bank's Alfred Herrhausen Society (ARCHITECTURE GENERALE)" Phaidon PressMarch 26th, 2008.
[15] Meredith, Sam. "Two-thirds of global population will live in cities by 2050, UN says" cnbc.com May 17, 2018.