

Density, diversity and proximity: the three qualities of an innovative city

In this important essay Spencer de Grey considers density, diversity and proximity: the three qualities of an innovative city

When I was asked to pick my favourite building in London earlier this year, I chose the 1943 Plan of the Social and Functional Groupings of London as a deliberate provocation. Conceived by planners Sir Leslie Patrick Abercrombie and John Henry Forshaw, and illustrated with striking clarity by Arthur Ling, the diagrammatic plan shows London's distinct yet interdependent urban villages and industrial districts radiating from the capital's historic hearts, the West End and the City. Obviously, the Plan is not a building, but I chose it because good architecture begins by responding to its social and phys-

ical context. For this piece, I have been asked to discuss the architecture of innovation, and once again, I want to cast the net beyond architecture and focus on what makes cities innovative.

Innovation is a product of the exchange of ideas between people, and the built environment can either improve or impede the flow of knowledge. At Foster + Partners, our clients, be they universities or corporations or city governments, approach us to design innovative spaces. There is, of course, no one-size-fits-all approach, but there are three spatial qualities

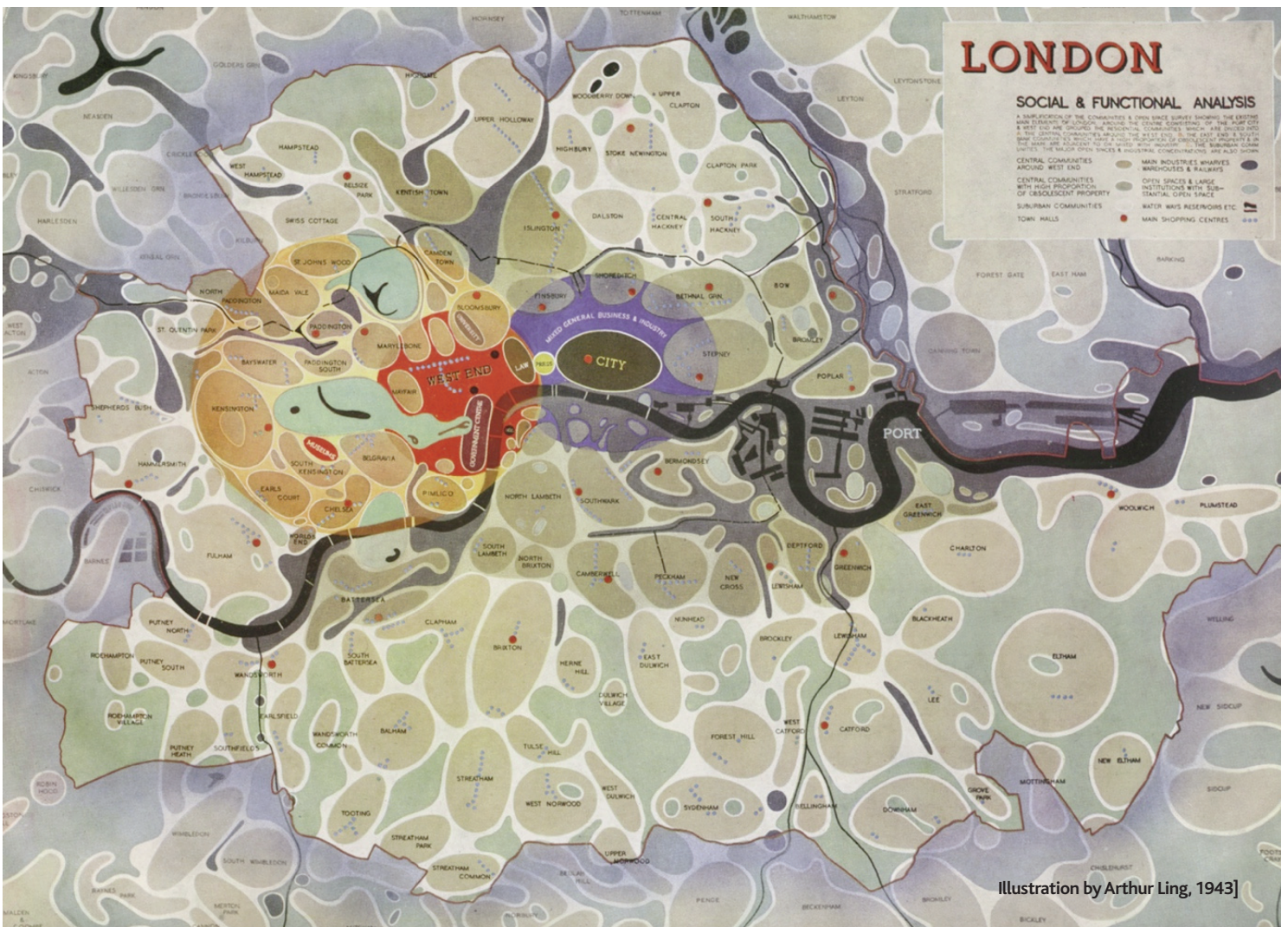


Illustration by Arthur Ling, 1943

>>> that are universally applicable when designing spaces for innovation: density, diversity, and proximity.

Density

Cities have always been the engines of innovation. As Edward Glaeser, the urban economist, wrote: “[i]deas move from person to person within dense urban spaces, and this exchange occasionally creates miracles of human creativity.” Urbanists from Jane Jacobs to Richard Florida have long celebrated the benefits of urban density in catalysing innovation, but it’s not urban density per se that creates innovation, but porous density which allows for a continuous flow of people, and by extension, of ideas.

A 2019 study by Maria P. Roche at the Georgia Institute of Technology showed that a ten percent increase in street density and connectivity is associated with a 1 percent increase in innovation. This hard data supports the soft observational analysis that dense urban environments like London’s Soho and Shoreditch – which comprise a mesh of human-scale streets and intimate public spaces – tend to foster more interactions between people, leading to greater exchange of knowledge and the strengthening of social networks. Evidently, Soho has been a driving force in London’s entertainment industry and Shoreditch in the tech-industry.

Perhaps not surprisingly, Roche’s study also found that areas with a higher density of amenities like bars and restaurants are also positively correlated with innovation because colleagues and collaborators who socialise together are more likely to develop a sense of trust and reciprocity, which are just as important as



state-of-the-art facilities. It is little surprise then that both Soho and Shoreditch are key nightlife hotspots in London as the cornucopia of cafes and bars, pubs and restaurants function not only as collective canteens and watering holes for local workers, but also attract other Londoners and visitors, making these districts vibrant around the clock and across the week.

Diversity

Density of people and amenities is fundamental, but it alone cannot sustain innovation. It needs to be combined with a diversity of expertise and organisations to help spur innovation. Alfred Marshall, the celebrated Cambridge economist, coined the term ‘industrial district’ in 1890 to describe the innovative power of the clustering of interconnected industries and institutions which are at once cooperating and competing.

Silicon Valley is an example of an industrial district par excellence. It has been so successful that the term Silicon Valley has become a synecdoche for the high-tech sector, and the word Silicon has become a powerful brand for other high-tech districts around the world: Silicon Savannah in Nairobi, Silicon Sandbar in Cape Cod, and of course Silicon Roundabout in London, to name just a few. Whilst the Valley has become synonymous with industry giants such as Apple, it maintains a thriving ecosystem of start-ups, research centres, public institutions, and venture capital firms.

At the turn of the nineteenth century Detroit looked a lot like Silicon Valley in the sixties and seventies, with a hive of small, dynamic firms and independent suppliers. But the consolidation of the automobile ecosystem into General Motors and Ford by the 1930s hindered the growth of new ideas because the network of small-scale entrepreneurs could no longer compete with the behemoths, and the atmosphere of innovation was replaced with an atmosphere of efficiency.

The decline of Detroit is a cautionary tale against industrial monopolies. To protect innovation, industrial districts must safe-

ABOVE:
Churchill College
Dining Hall
credit: ACME

LEFT:
Soho Street
credit: Bex Walton



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RIGHT:
Building 20
credit:
1964 MIT Alum Class



>>> guard a diversity of organisations of different scales and expertise across the public and private sector.

The benefits of close-knit diversity of expertise are also seen in university towns. The University of Cambridge, for instance, has produced 110 Nobel Laureates, accounting for 83 per cent of the UK's total. The high-tech laboratories, well stocked libraries, and capacious lecture halls are of course a part of the architecture of innovation, but it is also the inter-disciplinary dining halls where the seeds of innovation are planted, much like the pubs in Soho and bars in Shoreditch. The recent proliferation of the private sector and venture capital in the city is helping to finance and scale the innovative ideas to the global stage.

Communication technologies have eradicated distance, enabling someone in Cambridge, UK to collaborate with someone in Cambridge, Massachusetts in real time. But this virtual proximity has not replaced the value of physical proximity. In fact, as telecommuting has become easier and cheaper, inner-city real estate has become more coveted and expensive because knowledge-sector industries and workers appreciate the value of chance encounters and the tacit knowledge that is shared simply by being in the same place at the same time. The fact that Silicon Valley is at once the most technologically literate and yet the most expensive place to live in the United States is irrefutable proof of the fact that there is a premium on physical proximity.

On an architectural scale, MIT's Building 20 is a renowned example of the benefits of proximity. Designed in the space of an afternoon as a temporary war-time facility to develop radar systems, the building remained intact after the war becoming a spill-over facility for unlikely departmental neighbours such as Nuclear Science and the Linguistics department. These unlikely collisions proved to be a boon for its resident scholars who made legendary strides in electronics, physics and linguistics. Noam Chomsky remarked: "It looked like it was going to fall apart. There were no amenities, the plumbing was visible, and the windows looked like they were going to fall out. But it was extremely interactive." The building was so beloved that when it was finally demolished in 1998, some 200 leading figures

attended the funeral of the "plywood palace" that bore so many ideas.

The desire to create a highly interactive environment that encourages chance encounters was a key driver for our design of the Bloomberg Headquarters in London. From the sculptural Vortex at the entrance, to the distinctive hypotrochoid stepped ramp, characterised by its smooth continuous three-dimensional loop, to the radial desking system organised around collaborative clusters, the office building was designed to break down the figurative walls between teams. This approach to designing architecture that nudges colleagues to interact is part of a long lineage stemming from the Willis Faber & Dumas headquarters in Ipswich, completed three generations earlier in 1975. The building's open-plan offices are spread over three floors connected by escalators that climb up and down the central atrium. The three-storey escalators serve as an interior High Street for the workers of Willis Faber & Dumas, a place to see and be seen and stop for serendipitous conversations.

When we were designing the Bloomberg Headquarters, together with the client we wanted the building to be a "good neighbour," to give something back. The biggest gesture was the reinstatement of Watling Street, an old Roman Road that once ran through the site, and the addition of cafes and restaurants at the foot of the building. Curated by food critic Richard Vines, the eateries transformed the office building into an engaging slice of the City, much like the tight-knit and restaurant-lined streets of Soho and Shoreditch. It is easy to forget that the origins of the word company come from the Italian 'con pania', meaning 'with bread', which is a useful reminder that eating together is critical to cultivating collegiality and camaraderie, and ultimately, collaboration.

Over the past eighteen months many have called the future of cities into question. Yet we need cities more than ever to bring people together to innovate and tackle the challenges we are facing. From the architectural-scale of buildings that promote interactions across teams and disciplines, to the urban-scale of streets and squares that promote interactions across organisations and communities, designers play a crucial role in innovation by encouraging the exchange of ideas. Whether designing new buildings or reworking old ones, architects must begin by peeling back the red line boundary of their site and embracing the wider context both in terms of form and function. This is why the 1943 Abercrombie and Forshaw post-war strategic vision for London is just as relevant now as it was in the post-war era because it reminds us of the importance of urban density, functional diversity and the strategic proximity between complementary industries and sectors. ■

NEXT PAGE:
Willis Faber & Dumas
credit: Tim Street Porter



RIGHT:
Watling Street
credit: Dominic Martin



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