Designing the Modern City as an Urban Lab for Creativity

Thanassis Rikakis
Carnegie Mellon University
October 3, 2013

Cities that are in the process of reinventing themselves face intricate challenges that require innovative approaches. Separate teams of homogenous experts cannot tackle these challenges by working on one aspect before handing it off to the next team down the line. Rather, diverse cohorts of creative experts that are physically collocated and dynamically networked are proving to be a powerful, innovative approach to complex problem solving.

The diversity of these teams is key. In this context, diversity is multidimensional and addresses race/ethnicity, gender, income, professional preparation and values. These teams produce well-informed contextual solutions; where economic gain does not out-weigh well-being and technological advancement and environmental protection coexist.

These teams are successful because the members bring deep expertise in each of the key dimensions of the problem and represent all relevant stakeholders. The members have mastery of their area of responsibility and are able to translate that knowledge into meta-concepts that generate confluence and facilitate integration.

The definition of expertise in this context is again broad. It ranges from experiential to analytical. For example, in a traffic improvement scenario, the input of an experienced bus driver can prove as important as that of a traffic engineer. These diverse expert networks can generate technological solutions in a humanistic context, promote training of complete human beings, and advance communities and individuals in an integrated manner.

The networking structures for these teams need to be dynamic, multimodal and multi-scale. Different teams are needed for different problems. A mix of repeat and new collaborations can provide continuity and spur innovation. Physical connectivity through multiple common spaces and meeting opportunities needs to merge with virtual connectivity and mobile communication. Large-scale common infrastructure promotes collaboration and avoids effort duplication but needs to coexist with customized small-scale infrastructure for individual, focused prototyping and reflection. New technologies (like digital fabrication and digital publishing tools) can return part of the production structure to the hands of individual craftsmen, or small production teams, and reestablish the co-dependence of production and consumption along with the aspirational learning, societal development and sustainability benefits that come from tight production-consumption loops. Productive individuals and small efficient teams can then merge as needed to tackle bigger projects and issues.

Complex, multilayered, creative networks emerge from bottom-up energy but can be facilitated by top-down incentives. The city of Pittsburgh, for example, attracts young people who merge technology and arts interests and are developing creative, maker movement networks. These networks can be facilitated by top-down incentives. A coordinated investment in public maker infrastructure at multiple scales can leverage the energy of the ground up maker movement and facilitate further the scaled democratization of production and communication. These investments can include anything from mini fab labs in schools and online web app development workshops to high end, large scale additive manufacturing facilities and experimental presentation spaces open to all.

Local and global contexts need to coexist. Innovation ecosystem approaches implemented in San Francisco cannot apply wholesale to Pittsburgh. Pittsburgh needs innovation ecosystems that leverage its unique characteristics (human-scale city), address its challenges (inequality of opportunity), differentiate Pittsburgh from the strengths of other cities (venture capital available in SF) and produce unique outcomes that are demanded by the global economy (solutions to hard problems that require long-term work by a non-transient work force).

Traditional expertise needs to be incorporated in innovation networks but should not dictate the outcomes. For example, the multifaceted role of public libraries in promoting the growth and well-being of societies is well-documented. But what if the library of the future makes books available through digital platforms, thus freeing up space for maker activity? What if media literacy and amateur-mediated publishing becomes an important outcome for the library of the future? What if culture is not an 8-10 p.m. activity in dedicated temples (concert halls) but something ubiquitous in everyday activity?

Many of the above paradigms of collaborative innovation gained prominence in large scale industry labs and research parks of the past 50 years: Bell Labs, Corning Research, Xerox PARC, IBM, and DARPA. The labs were dedicated to creative exploration and inventing the core enabling technologies of the future. In a recent column in the New York Times, David Brooks discusses how companies see cities with strong urban universities and high concentration of creative people who form diverse networks as the next generation of research parks.

The concluding questions therefore is: How do lessons learned in collaborative problem-solving influence the way we design the infrastructure (physical and virtual), connectivity structures, institutions and policies of the modern city so as to promote creativity and innovation while advancing quality of life?