

Humanistic and scientific approaches to understanding cities



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Understanding cities by the knowledge of their complex emergence from bottom up evolutions is essential to designing plans. The latter should be aimed at advancing humankind's habitats and identifying patterns toward progress and quality of life at different scales and angles.

This understanding and planning process is based on the premise that qualitative linked to quantitative approaches provide mutually sympathetic outcomes for adding knowledge to the complex and polyhedral system par antonomasia as the city is.

The quantitative-scientific approach finds universal rules, viewing cities as part of the natural domain to be studied by scientific method. The humanistic approach claims a difference between the human and the natural domains, so studying cities and their phenomena quantitatively may lead to reductionism. Accordingly, this approach finds soft hermeneutic methods more suitable.

This opposition is only a surface-deep as it is often transformed into a profitable complementarity; that is using scientific methods when dealing with urban phenomena that are objective and universal, and the humanistic approach for phenomena that are not. We can also, when possible, quantify qualitative phenomena and qualitatively interpret quantified data. Sometimes quantifications without qualitative guides may be blind as well as the vice versa narrow.

The view of the world has repeatedly shifted between these two pendulums: scientific and humanistic.

During the first half of the 20th century, both sides were present; the system theory approach was preeminent and, during the 50's, this induced researchers to see systems as centrally ordered, and as a hierarchical sum of subsystems dominated by negative feedback. Until the middle of the 20th century, a standard theory of cities as an economic and transportation model prevailed, based predominantly on the monocentric city. Ideas and models were built on statistical aggregations of units.

In the 1950's the quantitative revolution criticized the scientific validity of the humanistic trend, which defined descriptive approaches. In turn, in the early 1970's, scholars adopting urban social theories in the qualitative revolution criticized the positivist-quantitative approach.

The relatively recent science of urban complexity can be seen as a second scientific culture of cities, or, as I like, a junction between the scientific and humanistic cultures. Similarly, we often read the art of making cities versus the science of making cities, where art is viewed as the opposing counterpart to science. If for art we do not intend "beauty"—which is a fluctuating and baffling phenomenon—but intuition, then what we expect for a city to be a work of art is a personal element. Each city reveals unique features; each city is special, and in a different way for each of us.

The contemporary new science of cities, based on the complexity paradigm, is a science that induces art: each city emerges from unique contexts, from which the randomness of micro-fluctuations, the unpredictability of positive feedback on the agent's behaviour, and contextual historic successions, generate unique scenarios, each of them personally read. At the same time scientists clearly show a universality in several urban phenomena, independently from where they are situated. Science sees the many in the one, art the one in the many, and this happens without the classical contradictions of art versus science, and of qualitative versus quantitative.

It is my wish that this opening should encourage a vibrant mixed-method community to strive towards a gainful use of the great promise offered by a multidisciplinary connection and the synergy of qualitative and quantitative sciences to understand and design our habitats.