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City OF Things or City FOR People?

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1 ABSTRACT

CORP 2019 proposes to explore whether the future of cities will lie in complete standardisation through technological innovation or whether the quest by people for uniqueness and peculiarity can prevail. The questions addressed in this paper is whether cities will converge into ubiquitous, remotely controlled sameness or preserve their identities embedded in the emotions of those who live, work, play and learn there; or whether there may be another way, somewhere in between these extremes, a means to combining their best features and attenuating their flaws.

Keywords: city life, future cities, internet of things, smart city, psychology

2 THE SMART CITY TECHNO LOBBY

Some decade ago, the smart city lobby, driven by global multinational tech firms started to promote itself at global events to sell its high tech products to urban decision makers expecting to dominate urban management. The lists of sponsors, speakers and exhibitors of smart-city focused events and platforms confirm this to this day.

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The annual SmartCityExpo World Congresses led by Barcelona remain the major global - probably initial - such undertaking.¹ SmartCitiesWorld "provides a centralised source of intelligence about the infrastructure required to create a smart city",² while Urban Hub is a slightly broader interactive platform for people working on urbanisation, smart cities and mobility.³

Views differ on the origins of the smart city movement. Some relate it back to the introduction of traffic lights at the beginning of the 20th century⁴; others refer to Los Angeles and its high tech context when as early as the 1960s the city administration constituted the Community Analysis Bureau with a computerised database "...to direct resources to ward-off blight..."⁵; others situated it in 2005 when the "sustainability connected urban development programme" of the Clinton Foundation supported Cisco R&D which Cisco used in 2010 to create its "Smart and Connected Communities Division" to commercialise its products.⁶ Amazon created AWS (Amazon Website Services) to power smart, connected and sustainable cities.⁷ Later, other global tech firms connected with the smart city movement. For example Google created its "Sidewalks Lab" in 2017 led by Daniel Doctoroff.⁸

Besides techno-driven changes and new global techno entrants the smart city discourse evolved over the years, in part in response to criticisms and resistance by city and citizen activists. Urban Hub cites three stages of smart cities: Songdo symbolises stage 1.0 - top down technologically driven decision making; Madrid represents stage 2.0 where citizens and politicians were adopting smart technology to provide

¹ <http://www.smartcityexpo.com/> these congresses are connected to many regional and specialised techno networks

² <https://www.smartcitiesworld.net/> It includes smart city profiles, specialised reports and smart city focused white papers.

³ <http://www.urban-hub.com/about/> sponsored by thyssenkrupp elevators

⁴ <https://www.information-age.com/smart-city-concept-vs-reality-123468465/> ___Nick Ismael, smart cities in the information age, 2015

⁵ <https://boomcalifornia.com/2015/06/16/uncovering-the-early-history-of-big-data-and-the-smart-city-in-la/> Marc Vallianatos, Los Angeles, the state of the city, a cluster analysis of Los Angeles 1974

⁶ <https://www.zdnet.com/article/the-origins-of-smart-city-technology/> Tyler Falk, The Origins of smart city technology, 2012

⁷ <https://aws.amazon.com/smart-cities/> AWS for Smart, Connected and Sustainable Cities, the Cities of the Future Powered by AWS.

⁸ <http://smartcityhub.com/technology-innovation/google-connects-smart-city-movement/> ___Google connects with the smart city movement, 14072017

solutions for their real needs; in stage 3.0 it is people who are shaping cities, paving the way to integrate top-down and bottom-up approaches to urban digitalisation.

Herman van den Bosch of the Netherlands Open University elaborates the smart city stages further.⁹ For him, Smart City 1.0 is a municipality that is maximising the use of advanced technology as a lever for viability, sustainability, and control. Smart City 2.0 is appropriate if technological tools are designed explicitly to cope with problems like pollution, sanitation, health and traffic, in consultation with their citizens; Smart City 3.0 entails "communing" or place-making, deploying high-, low- or no-tech solutions which connect every day collaborative acts with broader goals like social inclusion, democracy, enterprise creation and building social capital.

In 2018 a "specialised report" stated that smart cities are futuristic but must also learn from the past.¹⁰ At the Smart City Expo World Congress 2018, the CTO of Barcelona, Francesca Bria concluded that 'smart city' is simply good urban planning which incorporates both advances in digital technology and re-thinking existing city concepts, such as relationships, community, environmental sustainability, participatory democracy, good governance and transparency.

Such departures from the smart city techno discourse may have provoked the migration of hard techno firms to a more recent spin-off, the annual Global IoT TechExpo conferences.¹¹ Yet, even there 'smart cities' which feature automation, machine learning and Internet of Things are defined as municipalities that use ICT to increase operational efficiency, share information with the public and improve both the quality of government services and citizen welfare. Nevertheless, the conference topics remain energy conservation and efficiency, use of smart sensors, smart streetlight dims, smart grids to improve operations and maintenance planning, supply of power on demand and monitoring energy outages. Despite such adaptations, the techno lobby remains global, concentrated, powerful and very present to this day. Nevertheless, in the light of the increasingly diffuse use of the expression 'smart' to qualify cities, communities, technologies and much more, it could be argued that this term has become meaningless. A counter-argument may be that the high-tech ICT firms have 'privatised' this term to use it as their commercial trade mark.

3 BIG BROTHER OR EMOTIONS?

The more general question related to sensor-fed digitalisation of urban services and virtual human communication is: will future cities be run by 'big brother' or will they remain intertwined with emotions? Are automated digital urban management and touchy-feely city experience intractable opposites or is there a way to connect them?

It should be kept in mind that technology has improved city living for centuries and smart city technologies, robotics and artificial intelligence are just the latest phase in this development. The current difference between Artificial Intelligence, robots, automated remote control, etc. and humans is the ability of only the latter to have emotions and feelings, a sense of place and a yearning for belonging, at least for the time being. However, an exhibition of the history of robots and their future, 'Nosotros Robots', at Telefonica Foundation Space in Madrid in 2018 asked in earnest: will robots who acquire human characteristics have to be granted legal personalities, an issue taken up by the European Union, and will they be liable for taxation? This is just one example of blurring boundaries between machines and humans, which can be transposed into links between high-tech and low-tech dealings with cities.

Quite clearly, there will never be an either-or situation in city planning and implementation, smart or otherwise. While the techno-lobby of the most powerful global companies at the forefront of R&D has been evolving from its initial objective of achieving a monopoly or a cartel position in smart city development and management toward a more pragmatic stance, the conventional urban decision makers, planners and managers want to, or have to resort to technological instruments which will facilitate their tasks by

⁹ Herman van den Bosch, Smart Cities 1.0, 2.0, 3.0, What's next? In Collaborative City, 4 July 2-17, <http://smartcityhub.com/collaborative-city/smart-cities-1-0-2-0-3-0-whats-next/>

¹⁰ Mike Barlow and Cornelia Levy-Bencheton, Smart cities are futuristic but they must also learn from the past. <https://www.smartcitiesworld.net/special-reports/smart-cities-are-futuristic-but-they-must-also-learn-from-the-past>

¹¹ <https://www.iottechexpo.com/global/>? At the time of writing the next Internet of Things expo and conference is in London in 2019

automating them to make them more cost-effective, besides creating convenient remoteness from dissatisfied users.

4 THE OTHER END OF THE SMART CITY DISCOURSE

This is not the place to return to the 'adjectified' city syndrome,¹² safe to mention that 'smart city' is one of them and that 'adjective cities' are often used interchangeably, such as smart, sustainable and eco-cities. Without returning to a wide range of smart city definitions and interpretations,¹³ it is useful to stake out the protagonists on the opposite side of the smart city spectrum. There visions, policies and applications are far wider apart than those among the techno lobby. They form a wide variety of bottom-up alternatives, including those where people wish to opt out of any formal system altogether; they range from orthodox planning methods, many still somewhat driven by 'command and control' or 'predict and provide', exemplified by lists of targets and masterplans, to deliberative democracy approaches - 'debate and decide' - be it in traditional consultative or more interactive participatory mode, to reach negotiated planned agreements, at least for a given timespan. This multitude of approaches requires a selection of examples to illustrate these sliding positions in the planning process and to posit them in relation to the evolving smart city techno lobby.

4.1 Mainstream planning

ISOCARP, an international lobby of city and regional planners created in the nineteen sixties, at the height of formal planning powers in the public sector had to reconsider its position periodically in the light of geo-political, economic and technological changes worldwide. Drawing on the annual congresses what the panorama of the main planning trends over the last fifty years shows¹⁴ is that a sequence of mainstream, essentially prescriptive planning - sometimes perceived as theory, sometimes to the exclusion of all else - has led to unforeseen adverse effects, difficult to correct or to reverse. For example, Le Corbusier's ideas depicted in his Plan Voisin conceived over a tabula rasa of existing Paris city fabric have been crudely applied worldwide to become ubiquitous high rise CBDs accessed by urban motorways, exemplified even recently by Dubai.



¹² deliberated for CORP 2014, Judith Ryser, Planning Smart Cities... Sustainable, Healthy, Liveable, Creative Cities... Or Just Planning Cities. CORP 2014, Vienna

¹³ discussed for CORP 2014 and CORP 2016, op. cit. and Judith Ryser, Smart Cities – Or Smart About Cities, Or Just Planning Cities?, CORP 2016, Hamburg

¹⁴ Judith Ryser (ed), International Society of City and Regional Planners: Fifty Years of Knowledge Creation and Sharing, Isocarp 2015

Dubai CBD and urban motorway https://www.123rf.com/photo_55558329_dubai-aerial-view.html

Decades later, motivated by the sustainability credo, Jeffrey Kenworthy proposed ten key dimensions for city development.¹⁵ Among his 'best practice' examples are massive and expensive interventions of taking down car-based urban transit structures, be it in Seoul where roads were removed to uncover the river, or in Vancouver and Portland where car viaducts were demolished and planned freeways replaced with light rail infrastructure. Inadvertently they illustrate how costly and difficult it is to rectify unforeseen adverse side effects of mainstream 'conviction planning' (which is termed ideology by descending voices).

Essentially, Kenworthy's tick-box approach does not really differ from traditional planning with its trend to resort to prescriptive checklists of discrete items of land use and transportation and lack of ability to deal with their crucial interdependence. Introducing systems theory and modelling into planning in the 1970s was expected to solve such interaction problems, but these models are essentially tautological.¹⁶ Moreover, many assumptions underlying the fractious approach to planning are not critically examined. For example, producing high density mixed use developments around collective transport stations ignores current ways of life and is therefore unable to guarantee that people choose to live, work, let alone play there at the same time. It could be argued that replacing urban sociology with digitalised statistics may not have led to better capacity of representing and understanding how people use their cities. This awareness may have triggered the departure into psychological understanding of the city, pioneered by Charles Landry and his team¹⁷ discussed below.



<https://www.straight.com/news/395311/city-vancouver-seeks-input-densifying-area-around-commercial-broadway-station>
Densification of transportation nodes, Vancouver project

¹⁵ Jeffrey R Kenworthy, Ten Dimensions for Eco City Development in Theory and Practice; In: Isocarp Review 12: Envisioning Future Cities, ideas and examples, Isocarp 2016.

¹⁶ Even Marcial Echenique, whose modeling of cities is among the more nuanced conceded that all systems analysis models were tautological, but useful tools for thinking about cities and how they work. Marial Echenique, Urban systems, towards an exploratory model, 1968 CES London; Marcial Echenique, A disaggregated model of urban spatial structure, theoretical framework, 1953, Cambridge University, Department of Architecture. He moved onto different interpretations and representations focusing on a sustainable human environment. Marcial Echenique & Andrew Saint, Cities for the Millennium, 2001, Spon,

¹⁷ Charles Landry & Chris Murray, Psychology and the City, the hidden dimension. Comedia, 2017

Meanwhile, one prescriptive planning panacea continues to succeed another. The International Manual of Planning Practice illustrates this progression in 135 countries worldwide.¹⁸ The current credo comes up as densification over transit interchanges, often without density matrices or revision of behavioural assumptions.

Interestingly though, the pictures of the "characteristics of the cities we need"¹⁹ - with one exception - are showing current sustainable city living at low density, with public transport and low rise buildings surrounded by greenery in the sunshine. This is accompanied by the panacea of autonomous vehicles focusing on traffic flows, omitting that the fundamental objective of traffic is to bring people and goods from origin to destination where traffic stands still. Hajer is one of many critics of autonomous vehicle merits claimed by the motor industry.²⁰

More recently, ISOCARP focused on providing "knowledge for better cities" and this included the smart city approach. As a global association of planners it decided to produce its own manifesto on the 'Smart, Sustainable City',²¹ while also discussing the key orientations of the planning profession and their outlook.²²

Individual ISOCARP members are often getting together to share their experiences and disseminate their views about planning. "Spatial Planning Matters!" is an example of current progressive thinking and acting in planning.²³ It collates large completed projects as well as plans in progress and discusses them in relation to selected 'fundamental topics'. This compendium of collective, systematic reflections on planning and its 'raison d'être' represents a counter-approach to the 'smart city' driven discourses. It includes many criteria which the smart city movement is attributing to itself, ranging from cost-effectiveness to sustainability, from deliberative participatory processes to legitimacy of leadership, but it acknowledges that planning approaches are not neutral and that planners may be trapped in conventional wisdom and beliefs of their professional community.

Interestingly, although focused on Europe, London is not included in this collection of large scale planning examples. This may have to do with a shift in Britain of planning as a balance between the public good and private property interests toward a development-led approach. In London decision makers are focusing on how technologies affect the future shape of their city. While the smart city stakeholders are making a connection between smart technologies, the built environment and the spaces allocated to movements, they are less concerned with the impact their technologies have on people who use the built environment and move around in cities, considered as passive consumers of this process. They propose that smart planners and developers should resort to 3D city modelling, but this technique tends to exclude how humans wish to use the city, let alone their emotions, or their cultural identities which influence their ways of life and their expectations of the city.

Current re-thinking of planning is undertaken in a forward looking collection of deliberations, which includes an exploration of a new paradigm for planning, a critique of modernism, a deliberation of inclusive resilience of cities, and a range of experiments with participatory planning processes at different urban scales.²⁴ These and many other diverse explorations of how to deal with uncertainty in mainstream planning contrast with the more deterministic conviction politics of inexorable smart technology.

5 ALTERNATIVE PLANNING APPROACHES

Unlike the smart city lobby and progressive mainstream planning, experimentation with alternative development approaches are far more diffuse, uncoordinated and thus unlikely to be able to constitute a

¹⁸ Judith Ryser & Teresa Franchini (eds), International Manual of Planning Practice, Isocarp, 2015, 6th edition. <http://worldcat.org/identities/lccn-n2001105103/>

¹⁹ Isocarp Review 12, op. cit.

²⁰ Maarten Hajer, A Hoen, H Huitzing, Shifting gear, beyond classical mobility policies and urban planning. IN: Keep moving, towards sustainable mobility, 2012, University of Amsterdam

²¹ Smart Sustainable City, White Paper of the International Society of City and Regional Planners, In: Isocarp Review 14, Climate Change Planning., 2018

²² The Isocarp Review 12, Envisioning Future Cities, includes projects submitted towards the Future City competition for school children, aimed to attract them to the planning profession, 2016.

²³ Bernd Scholl, Ana Peric and Rolf Signer (eds), Spatial Planning Matters!, inspiring stories and fundamental topics, ETH 2018

²⁴ Re-thinking planning, a fresh view of urban issues, (a follow-up of the 2015 Isocarp congress), forthcoming in 2019.

critical mass for mainstream alternative change. Many diverse interest groups are intervening in urban development in opposition to, or due to exclusion from mainstream urban planning, development and management. The selected examples represent experiments by 'doers'.

Experiences from the developing and the developed worlds in 'Loose Fit City'²⁵ are contributions of bottom-up architecture to urban design and planning. It is a bold approach to make the case that self-build and self-managed physical development can scale up from individual structures to neighbourhoods and even whole cities. General preconditions and limitations are invoked and real projects are shown which managed to circumvent them. One of them is a successful retrofitted sewage system realised by locals in their informal settlement in Gokulpura, Agra India. Directly involved in these projects, the authors strongly believe that such bottom-up methods can grow into a major part of urban development. Another approach focuses on the inequitable living conditions and the weak position of women in urban development and how that could be redressed.²⁶ Another discussion of community driven design and making²⁷ shows how poor communities in the USA were able to assume a major role in the regeneration of their neighbourhoods, among them one destroyed by storm in south-east Manhattan and another in Biloxi on the Mexican Gulf after flooding.



<http://www.thelodownny.com/leslog/2014/09/east-river-park-celebration-coming-up-saturday.html> Lower East side park, community kite festival

Transition Towns, 'City-Slow', credit unions or 'urban guerrilla gardening' are among the many other activist groupings who contribute hands-on to the improvement of their living and dwelling conditions throughout the world. Most of them have to resort to low-tech solutions, not out of conviction but out of necessity. Some manage to use higher-tech tools such as smart solar panels to generate electricity in remote rural Sub-Saharan environments. Just as social media, smart phones, videos, film and television have not made books redundant but are additional means of communication, smart technologies may not displace artisanal making, low-tech or no-tech completely. It could even be argued that the fast penetration of the digital world into everyday life has spawned new movements in reaction to high-tech which are revitalising traditional skills in restoring existing buildings and neighbourhoods. Their achievements show that alternatives to smart technologies can make valuable contributions to the improvement of urban living. Most of all they generate great satisfaction in making.

²⁵ Maurice Mitchell and Bo Tang, *Loose Fit City*, Routledge 2018.

²⁶ Linda Peake & Martina Rieker (eds). *Rethinking Feminist Interventions into the Urban*. Routledge 2013.

²⁷ Barbara Brown Wilson, *Resilience for All, striving for equity through community-driven design*, Ilnad Press 2018.

6 PLANNING PHILOSOPHY INFORMED BY PRACTICE

Even writers like Richard Sennett have taken part in real life experiments of this type and built their more theoretical reflections on them. In *Building and Dwelling*²⁸, Sennett distinguishes between the making and the using of cities. He examines the relation between what he calls 'cité' and 'ville' through history and space. Based on his extensive observations and personal involvement with local communities in self-determined and often self-managed improvements of their living conditions which include their shelters, he deduces more general reflections, also about smart cities and what they signify. He distinguishes between 'prescribing smart cities' and 'coordinating smart cities'. For him the former, "...the closed smart city is a "Googleplex" enlarged, filled with individuals by user-friendly technology which stupefies citizens...".

The take of Hajer and Dessen on smart cities is nuanced as "Smart About Cities".²⁹ They argue that "... urban technologies will make cities safer, cleaner and, above all, more efficient. Smart cities will sense behaviour via big data and use this feedback to manage urban dynamics and fine-tune services...", but in their view smart technology tends to look for problems to their solutions. In 2016, as chief curator of IABR,³⁰ Hajer warned designers of treating smart technology as inevitable and concluded that "...the locus of the city is the locus of innovation and invention, that is something that cannot be killed, not even by smart city technology..." For Hajer it is more about smart urbanism than smart cities. Smart cities rely on big data and monopolistic military GPS technology to make cities more efficient. Conversely, more humanities-based urbanism has long been looking at what makes cities work and putting social problems first. He uses the example of driverless cars to point out the difference between driverless cars as industry driven commodities and as government-introduced intermediate transport mode between public and private transport to reduce substantially the number of cars on roads.

Others are also critical of how big data is used and the 'systematicness' of smart city technologies generally. For them smart cities are driven by the politics of centralised control that prescribes how people should live, exemplified by control rooms, like in the 'smart' or 'eco-city' of Songdo in South Korea. In Rio de Janeiro the city council put into place an Operations Center and an Integrated Center of Command and Control with IBM "Collaborate to Advance Emergency" for the 2014 World Cup and the Olympic Games for which it obtained the "World Smart City Award" from the Smart City Expo World Congress in 2013.³¹ While these smart services managed to improve safety and disaster management they were also instrumental in helping evacuate favelas deemed threatened by landslides. Despite IBM's claim that the 'smart city control center' would provide access to real time information which would empower citizens they, in turn, considered it too remote and inaccessible.

For Sennett due to their prescriptive 'tight-fit' smart cities like Songdo are not smart at all, as they fear chance, cannot cope with serendipity and suspend sense of place. For him, "prescriptive smart cities" bring the modernist 'form-follows-function' tight-fit mode into the digital age. Instead of becoming self-sustained environments smart cities are a recipe for technological obsolescence. Nor does technological efficiency necessarily guarantee financial success. Smart cities privilege problem solving over problem finding, thus they are neither creative nor innovative. People there move through space rather than experience place and by using machines, people may stop learning. This fear was already expressed by Norbert Wiener³² who, according to Sennett, coined the phrase 'big brother'.

Opposed to that, "coordinating smart cities" are more promising for Sennett. Using cheaper technology to coordinate activities they focus on people as they are, not what smart city protagonists (and sometimes planners) want them to be. According to Sennett, coordinative technology develops human intelligence. Organised in open networks they are including everyone and citizens have more control over how their data is used. The coordinate smart city honours limitations on its own data, processes it and relates that information to other groups. Sennett quotes Porto Alegre in Brazil as an early coordinate smart city, due to

²⁸ Richard Sennett, *Building and Dwelling*, Ethics for the City, Allen Lane, 2018.

²⁹ Maarten Hayer and Tim Dessen, *Smart About Cities*, Visualising the Challenge for the 21st Century Urbanism, 2014, nai010 publishers

³⁰ IABR, International Architecture Biennale Rotterdam. <https://www.dezeen.com/2016/04/27/smart-technology-driverless-cars-interview-maarten-hajer-rotterdam-biennale-2016-curator-netherlands/>

³¹ <https://medium.com/sidewalk-talk/4-lessons-from-rios-flawed-smart-cities-initiative-31cbf4e54b72> 4 lessons for lessons from Rio's flawed smart cities initiative.

³² Norbert Wiener, *Cybernetics, control and communication in the animal and the machine*, 1948 IMP Press

its participatory budgeting and bottom-up distribution of economic resources in neighbourhood assemblies. While the city was growing demand for participation in this system grew beyond its capacity and some top-down powers attenuated their initial complete openness to all. Nevertheless, smart city technology and big data are used in many of Brazil's megacities to coordinate citizen participation with citizens communicating on-line instead of face-to-face. Proposals and responses are for all to see on-line and used by elected representatives to establish binding budgets.

The actual design of cities can also follow open, coordinate principles. Sennett quotes the ForCities computerised model to illustrate how both citizens and planners can ask 'what-if' questions and compare alternative responses, thereby assisting people in their choices. Such contemporary systems can self-organise, analyse and respond to changing conditions. Their algorithms are self-critical rather than self-according to a predetermined program. The open smart city engages the users in its data and interpretation, although it is not immune to mistakes. Sennett concludes that the prescriptive smart city is authoritarian while the coordinate smart city is democratic. But 'building and dwelling' goes far beyond any limited form of smart city.

7 PLANNING WHICH DRAWS ON HITHERTO NEGLECTED DISCIPLINES

Charles Landry is another urban thinker who is also directly involved with citizens in city 'making', transformation and use. Sometimes he and his Comedia team used art as an intermediary in such dialogues or cooperative ventures. He discusses these approaches in his various writings illustrated with his outstanding visuals about creativity in the city.³³ More recently, he turned his attention to psychology.³⁴ Social sciences in the form of urban sociology, anthropology and ethnography had colonised urbanism before they were displaced by hard sciences in the form of mathematical and statistical approaches to planning and urban development. However, increasing claims of city users to their take on the city opened up possibilities for humanistic disciplines once more, psychology among them. When Landry explains his aim and intent with his approach to 'psychology and the city' he quotes Jan Gehl who said: "It is ironic that we know more about the habitat of mountain gorillas than we do about the habitat of people".

For Landry, being in the city is a two-way psychological process: "...the city impacts upon our mind - our mental and emotional state impacts upon the city...". Already Churchill had stated: "...we shape our buildings, thereafter they shape us...". Landry's aim is to reveal such interactions and their impacts "...to understand how we make, manage and inhabit places...". He is astonished that psychology, the science which explores the area of feelings and emotions has not been taken more seriously as an urban discipline so far. For him, the city is primarily an emotional experience with psychological effects. Moreover, "...the personal dispositions and mind-sets of those who shape cities also determine our urban life...". This could almost be read as the antithesis of 'smart city' which is cold and without feelings.

His psychological approach to detecting hidden dynamics of the city is practical, just like his experiments with the creative city. With his team he undertook research in eleven very diverse cities in terms of size, geography, location, economy, demography and culture to undertake a 'City Personality Test'. Landry believes that cities like humans have personality traits. Together, they constitute a city's identity and creative capacity. Not surprisingly for Landry, their hidden attributes have mainly psychological roots, as he considers that cities are their people, their networks, their tribal allegiances and institutions they form.

8 CONNECTING SMART TECHNOLOGY WITH SMART PEOPLE

From a review of the main strands of psychology Landry concludes that no single one is sufficient to explore urban psychology and that a combination of their specificities is a better contribution to the existing toolkit of urban analysis and development. He also feels the necessity to overcome the model of binary opposites and to connect opposing approaches such as materialism and idealism. Alternative distinctions between different opposites were singled out by the physicist Niels Bohr when he noted that "...the opposite of a fact is a falsehood, but the opposite of one profound truth may very well be another profound truth..." Thus for Landry a materialistic scientific perspective fails to explain away "...concepts like personal narrative, the

³³ Charles Landry, *The Creative City*, a toolkit for urban innovators, 2000, Earthscan; Charles Landry, *The Art of City Making*, 2006, Earthscan

³⁴ Charles Landry & Chris Murray, *Psychology and the City*, the hidden dimension, 2017, Comedia

desire for completion or meaning which are essential for human endeavour and wellbeing, and so also for cities....".

Landry aims to blend his psychological approach to cities with the smart city agenda. For him, the corporate assets of smart cities are the way they harness the potential of big data with self-regulating responsive sensors and their transformative impact on places. Eurocities³⁵ explicitly state that "there is no smart city without smart people". This expresses how they distance themselves from the narrow techno-corporatist understanding of smartness. For Eurocities smarter cities are inclusive places using technology and innovation to empower and engage with, and capitalise on citizen participation, extending it to the co-creation of ideas and solutions. Intellectual capacity and human emotional intelligence, instincts and feelings can be brought together to understand and solve what really matters in cities.

9 FROM SMART TO RESILIENT

Landry, like other 'city makers', including the contemporary smart city lobby with a broader understanding of smartness seem to aim at resilience. Yes, this may simply be the next adjectified city, or a new cliché according to Sennett which dominates urbanism, once steam will have run out for good of the 'smart city' tag because its application to everything will have become meaningless, akin to what is happening to the 'eco-city' tag for similar reasons, and may well happen to the 'sustainability' tag doggedly applied everywhere. Meanwhile what is the attraction of resilience over smartness, ecology or sustainability?

Perhaps the most promising way to answer this question is to start at the opposite end with uncertainty, the key obstacle to planning the future of cities. Uncertainty is what planning seeks to overcome, or at least to attenuate. Uncertainty is feared all round by business as well as children. At present, resilience is seen more promising to deal with uncertainty than 'smart' high-tech, or even ecological and sustainability principles compatible not competing with nature. Resilient like most city adjectives is borrowed from elsewhere – engineering, biology and ecology.³⁶ Applied to urban processes resilience invokes adaptability and robustness. The effects of adaptability, triggered by shocks or stresses are reactive and partial, thus require integration into some consistency needed for continuous urban transformation. Robustness is expressed in flexible planning frameworks identifying conditions of desirable development. Today's preoccupation of planners is to strengthen the resilience of a city. One way of approaching this is through strategic flexibility. In practice this means to move on from purely rational analysis to a conceptual framework which combines preparedness with robustness and resilience.

The material, intellectual and emotional capacities of citizens (in the sense of city users) as well as their willingness to invest these in the city indicate the direction of travel of urban transformation. Inclusive resilience implies that this willingness is extending to all citizens and their respective abilities to participate in conceiving, generating and sharing the positive outcomes of urban development. For Sennett, resilience means recovery from forces or pressures which occur in time. A resilient object can be repaired. So can a resilient built environment be able to spring back over time. Yet, repair is costing more than doing work right at the outset, and looser initial fit between form and function is making future adaptations easier. Thus, Sennett argues that an open city is more repairable than a closed city, easier to operate with more interactive than directive power relations. But how can a city be or become resilient in practice to climate change or disruptions from within? How can the whole urban system spring back from inadequacies or incapacities in any one part? Looking at crafts, Sennett proposes three options: reparation, remediation and reconfiguration.

Landry adopts a practical stance toward the psychologically resilient city, the effects it has on people and how people can improve them and thereby people's overall state of wellbeing. His proposed toolkit for psychologically resilient cities identifies their contributions to personal growth, positive relationships, autonomy, environmental mastery, purpose in life and self-acceptance. What this means is that the purpose of a (psychologically resilient) city, its identity, physical form and evolution is to make and manage places which contribute positively to wellbeing and provide environments where people can live better and more fulfilling urban lives.

³⁵ <http://wsdomino.eurocities.eu/> The members of Eurocities, a network of over 140 European cities founded in 1986, are elected local and municipal governments.

³⁶ Andries Geerse and Larissa Guschi make the case for inclusive resilience in "Resilient and Inclusive Cities". In: Re-thinking planning, a fresh view of urban issues, (a follow-up of the 2015 Isocarp congress), forthcoming in 2019.

10 THE WAY FORWARD?

practice and how, if at all, do they relate to the 'smart city' approach? What is argued here is that technology (be it high, medium or low) and urban living, both constantly evolving, are dependent on each other to make the 21st century city liveable. More specifically related to smart cities, this means that those who live, work, play and learn in the city need to achieve more control over digital technology and how they wish to use it. The explorations and experiments of urban thinkers and doers like Sennett, Landry or Hajer and the many diverse activists are invoked to gain inspiration and transpose their achievements and reflections into practical ways of creating bridges between remote technology and human emotions to the overall benefit of city living. The next step could be to conceive practical tools which could assist planners, other professionals of the built environment and simply city dwellers in responding to this new understanding of urban development. Overall, this means a rethinking of planning and putting people first in the city, its transformation and management.