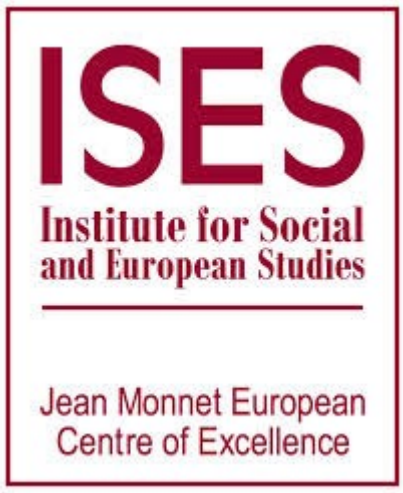
WORKING PAPERS IN SOCIAL AND EUROPEAN STUDIES



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Knowledge Governing Cities

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KÖZIGAZGATÁSI ÉS IGAZSÁGÜGYI HIVATAL

Nemzeti Kiválóság Program

‘Each city had it very much in its interest to enhance its well-being by attracting strangers from distant lands as inhabitants and by encouraging its youth to stay at home.’
(Symonds 1882:103)

The only systems that stand a chance of survival, growth and enhancement against the threat of disappearance, destruction and annihilation are those that leave it increasingly to the individual to enforce value considerations in the organisation of the relatively lasting structures of life, as opposed to systems which rigidly restrict the freedom of the normative ideas of individuals.
(Csepeli-Prazsák 2011)

One of the greatest sensations of the summer of 2014 sweeping through the world press was an interactive map, backed up by the relevant study, which offered a spectacular representation of the intellectual mobility of two millennia by marking the places of birth and death of 150,000 famous persons. Through the innovative depiction of this vast body of data it became easy to map out the end points of the migrations of the best known historical figures (scholars, artists, public figures) and their differences in time; in other words the dynamics of how certain cities temporarily became beneficiaries of cultural migration (Schich 2014). No doubt it is interesting to observe how the primary ‘density’ shifts from Rome through Paris, London and New York to San Francisco, and we have seen this kind of trajectories before, e.g., in art, economy, technologies. This daring piece of visualisation, however, does not reveal whether these shifts in focus ‘just happened’ or were to some extent propagated by conscious efforts at urban development. How far were these waves of immigration shaped by spontaneous and random choices and how far by conscious reflection? How did such a flow in ‘cultural capital’ relate to economic processes or the large-scale power-games of the geo-political playing field? What is the situation as regards transitory migration targets? What is the message of this map as regards large cities which appeared as a second or a third choice? The question what was going on in these patterns of migration remains open. How about other carriers of knowledge, those who remain invisible to the encyclopaedias, those artisans, clerics, teachers, musicians, architects, surveyors, lawyers, doctors, journalists or translators? What are the patterns of their distribution? And how does all of this relate to indicators of development, to quality of life or to small towns and also how widely these towns were known and how much attraction they held?

The above list of criteria, which was in itself partly inspired by this exciting piece of research carried out in international co-operation, offers a great chance to reflect on a few basic questions and think them over. Today in the race of competitive 21st century cities, each looking for its own future vision, where is the right place for carriers of knowledge (whether they are human brains or memory institutions which reify the stock of knowledge); for dominant forms and types of knowledge and knowledge organisations (including the actors of the knowledge industry) and for knowledge technologies (including the knowledge management solutions of city leaderships and the collective, although increasingly online, collective forms of the exchange and integration of knowledge)? Is it possible and is it worthwhile to reconsider the future of a village, town or city with a primary focus on knowledge phenomena and knowledge processes? After all, while the immigration of a high quality labour force has remained an important consideration to this day, we can clearly see

that practically all essential processes have become radically transformed in the following ways.

- Not just major global cities, but average cities, towns, townships or villages can become knowledge hubs for increasingly transnational networks (Hannerz 1990:237).[1] All of this partly goes back to the fact that even the minutest subcultural forms of knowledge capital (Thornton 1996) can have a global market today, and any single location can directly become a visible dot on the mental map of various communities of interest.
- As we manage to create an increasing distance from the dangerous pull of the nation state structure, itself increasingly dysfunctional, obsolete and fragmented by the hostilities of political parties, we see towns and cities, irrespective of their size, emerging as representatives of an increasingly independent and autonomous political authority in their own right which offers an increased chance for good governance' (Barber 2013).
- The larger the carrier of knowledge, the truer it becomes that they do not require mobility in the classical sense, because places of living, training and work can now be completely separate from each other (even on different continents), and so forms of temporary migration become more valuable.
- The earlier, mostly individual form of knowledge production has been replaced by industrial scale knowledge production, with large, interconnected communities replacing individual roles in most places, and acting as parts of a comprehensive knowledge eco-system in novel type knowledge markets.
- In parallel with this, widespread democratisation in a number of areas of knowledge have become characteristic which in the past used to reproduce themselves in closed and clearly outlined areas, thus creating novel mechanisms of knowledge sharing and knowledge utilisation (the world of, e. g., online volunteering, crowd sourcing or open educational platforms).
- In developed countries employment in the information and knowledge sector and even in other sectors related to information or knowledge work have become increasingly dominant in the knowledge market, which forms knowledge generations along the time axis in parallel with the levels of educational attainment.

Cities, which currently represent over half of the population of the Earth, now simultaneously need to

- manage their own knowledge assets, increasing and modernising it as best they can;
- keep abreast of the developments of the information and knowledge economy which is transforming production and employment;
- make use of solutions of information and knowledge technology in strategic planning, city management and the sub-systems of urban development.

A number of innovative trends have started looking for pragmatic answers to the extremely difficult challenges listed above. After a brief description of these I shall argue that their common denominator may be found in the relatively new and still developing trend of knowledge governance; next I shall highlight a few models and methods from a review of the

1 The concept of the knowledge village, to be interpreted in a global context, was introduced by Surinder Kumar Batra in a lecture (Batra 2013). This is no accident – India is most dedicated to experiment with various knowledge-based development programmes in small communities. The phrase itself, however, is regrettably overused for marketing purposes.

literature which seem instantly applicable and deployable within the arsenal of strategic urban planning. At the same time, I shall also attempt to cut an introductory path into the conceptual jungle which is now reaching such a level of proliferation that it actually jeopardises our understanding and obstructs a clear view of the situation.

Alternative approaches to knowledge and to urban development

The 'smart city' as a proto-narrative

The primary meaning of 'the smart city' refers to the way in which information technology with its tools and solutions incorporates itself into our urban environment in a ubiquitous and pervasive manner, stepping up our traditional instruments, organising them into a network and, most recently, assisting management procedures by real-time data production. The overall tendency is perhaps best captured by Adam Greenfeld's ingenious metaphor everyware (Greenfield 2006) – we are becoming smarter through being increasingly IT'd. This remains the dominant discourse even today. Examining the self-definition of a few mega-companies, Greenfield found that while Cisco stresses the power of networks and for Siemens energy efficiency represents the ultima ratio, IBM claims that the key is to improve the ability to predict and to improve the efficiency of decision-making. What all of these creeds have in common, however, is that they strive to improve the given performance of cities by information technology and, as it happens, the required solution required is the one they happen to be selling (Greenfield 2013a). We may smirk leniently at this conclusion, but Greenfield in fact argues in versatile ways that if the attitude or mind-set that expects the rejuvenation of cities from IT and from technology in general, becomes predominant this will in fact entail serious risks:

- because this mind-set is pro-centralisation and thinks in terms of top-down structure;
- because it is universalistic and aims to solve the problems of any city by using the same means, instead of specific development programmes adjusted to the needs of different cities;
- if methods of computer-based observation and surveillance become widespread this may increase the temptation to boost control functions and provoke authoritarian visions;
- it paves the way to over-planning and over-regulation;
- instead of the interests of the general population, it foregrounds the interests of large corporations and suppliers.

Greenfield in fact produced a small publication summarizing all that he found important to share concerning the above idea of the smart city (Greenfield 2013b). The primary reference point for critics of the 'smart city', however, turned out to be a different book. The reason is that the author Anthony Townsend, besides reviewing all that has happened in the arena of smart cities since the turn of the millennium, judged far more harshly. Programmes serving the short-term sales objectives of large corporations are not only based on naïve points of departure – they also lack the kind of complexity with which we should always approach a city as an organism (Townsend 2013). Knowledge production aligns itself with this approach. The increasing number of university research centres dedicated to the future of cities (New York, Ithaca, Chicago, London) are dominated by specialists of the data world – mathematicians, IT experts and physicists, without involving social scientists, architects, city planners or experts of the public service media. Even a scientific approach cannot in itself guarantee, claims Townsend, that cities gain access to applications and programmes which

adequately serve their needs. Nothing can be good enough unless it represents the interests of the primary stakeholders – the inhabitants. Instead of grandiose techno-visions, what makes a city smarter is a multitude of small, successful developmental steps supported from below.[2] As regards the sources of the different types of knowledge required for this objective, we find a new type of actor: the well-educated volunteer from any part of the world who is invisible to the usual institutional channels. Today, besides the magicians of computer-codes, the ordinary cyber-citizen who offers to share his or her knowledge can also become a 'hacker' – in the positive sense. These are the people who contribute really useful ideas through 'hackathons' – the free brain-storming sessions based on data made accessible to the wider public.

All of this reveals quite clearly that the trouble is not with the technology or with being data-centred – the question is how and to what end we use all of this. Open data can create the kind of eco-system which then constitutes the raw material for decision-making and the service planning of practicing city leaders, encouraging citizens to participate actively.[3] Goldsmith and Crawford (2014) go as far as to claim that data-based functioning actually undermines the vertical logic of traditional governance and launches horizontal currents not only among the various divisions of city leadership but also between the mayors' offices and the various groups of the population. This enhanced responsibility, in turn, entails stronger problem-solving skills, in other words, the ability to adequately respond.

This means that a data-smart city is also, by nature, a responsive city – it is responsible and able to react adequately[4]. The concept of the eco-city, which started its development in the mid-1970's, has been similarly refreshed and enriched by the approach which calls itself the 'eco-smart city'. This concept aims to go beyond making cities 'green all over' and offers intelligent (and not all IT-based) solutions in a range of areas such as transport or the management of poverty.[5]

We seem to be re-experiencing all that happened with the narrative of the 'intelligent city' back in the 1990's. What became truly important within the then nascent online culture were infrastructure, band width or the electronic transformation of sub-systems. No matter whether the catch-phrase was the digital city, electronic city, E-city, cyber-city, wired city or the networked city, ultimately what was in the focus of attention was always the central technological experience which enlivened the communication scene of the period. It took a decade to recognise that information development was a banal and easy piece of school homework compared to social engineering, which proved complex and difficult. Even if everyone has access in a digital city (Mossberger et al. 2012), the social rift between people who have inferior mobile devices and those with high quality access is opening ever wider. There is no point in having an e-city unless this contributes to improving people's mental map of 'the places', i.e. of 'real urban life' (Bucher-Finka 2008). There is no point in having a

2 Montgomery (2013), for instance, devotes an entire book to proving how seemingly small-scale design solutions can significantly increase the pleasure experience or happiness factor in a city.

3 Anyone interested will find a whole line of fascinating case studies in a book of essays edited by Goldstein and Dyson 2013.

4 It was by carrying this criterion further that the idea of the 'sentient city' was born (Shepard 2011). This came to serve as a kind of experimental agenda where cities 'come alive' through computerised systems in a way where they themselves produce the output of remembrance, comparison and anticipation.

5 Cities which position themselves as intelligent eco-cities include Kamloops, Canada; Penang, Malaysia and (primarily and most ambitiously) Langfang, China.

networked city if the frame of analysis needs to rely primarily on social parameters (Castells 2008) such as

- on mutual connectedness amidst the changing worlds of local and global places and flows; [6]
- on positive transformations of lifestyle, social morphology and social inequalities manifesting in mobility and other changes of behaviour;
- on crisis phenomena of social solidarity which devalue various scenes of everyday life;
- on the practices of planning, decision-making and the sharing of power.

By now, the literature on the future of cities has reached the point where the crucial considerations for the preservation of smart cities are survival, high living standards, inherent innovation and the development of the human resources (Scientific American Editors 2014). This branching off of the narrative of the 'smart city', which is becoming distanced from information technology and draws closer to the 'soft' world[7] of the knowledge domain,[8] increasingly converges with programmes of the 'knowledge city', creative city, intelligent communities or smart urbanism which have their points of departure elsewhere.

Knowledge cities

Knowledge cities were originally defined by those who launched the relevant narrative as 'places purposefully designed to nurture knowledge' (Edvinsson-Stenfelt 1999), 'in which the citizenship undertakes a deliberate, systematic attempt to identify and develop its capital system in a balanced, sustainable manner' (Carrillo 2004). Sometimes it is also added that they are capable of producing and exporting knowledge products of high added value. The Knowledge Cities World Summit was created as a forum for practicing urban leaders and experts, as well as researchers, and is being held for the seventh time in autumn 2014.[9] This is the occasion when the Most Admired Knowledge City Award will be handed over for the fourth time.[10]

Starting out as 'hype', the topic now commands considerable academic interest. Its researchers (mostly at universities) first started to build the discourse on knowledge cities in general terms (Carillo 2006). Today, in the 'second generation' phase, they are looking at the specialised and applied directions such as politics-making and the world of measurements supporting this (Yigitcanlar et al. 2012) from a diverse range of disciplines (innovation

6 One of the leading figures of the school of thought which takes a systemic look at urban studies, Michael Batty, published a 'sequel' to an earlier monograph (Batty 2007) and finds the foundations of a New Science of Cities in these decisive trends which, in turn, are shaped by the networks that keep them mobile (Batty 2013).

7 This tendency was most recently subjected to thorough analysis by Kitchin (2014).

8 Naturally, the IT-centred narrative also continues vigorously, and most recently the spectrum has become even broader when a whole set of indicators measuring the quality of urban life was elaborated in order to make the work of politicians and researchers easier. Besides the recent publication of a new, international standard for intelligent cities (ISO 37120:2014) which contains a hundred indicators, the World Council on City Data was also established to foster a unified platform of evaluating life in different cities.

9 http://www.worldcapitalinstitute.org/content/7th-knowledge-cities-world-summit-2014

10 The set of criteria and indicators which was developed to help the comparison of outstanding knowledge cities proved extremely useful later for creating a practice of 'knowledge city audit'.

research, knowledge management, economic theory, sociology, value surveys). Although the books on the subject are still predominantly collections of studies rather than systematic monographs, the multitude of papers does include some 'third generation' pieces on strategy building, programme planning and models and methods in support of specific interventions.

This extremely rich and promising discourse offers a large range of exciting classificatory criteria, approaches and concepts to expand the universe of understanding on the knowledge city, enabling guided analyses. Some authors concentrate more on integration and tend to find their unit of analysis in knowledge partnerships, in knowledge clusters comprising different knowledge agents, or in knowledge regions built by connecting different knowledge cities.[11] Others are curious to find out how many ways there are for modelling knowledge cities. While highly advanced big cities may be considered knowledge cities almost by nature, how can their proximate cities reach a similar standard or how could this be attained by smaller cities which are specialised in something or are seen as 'quaint' due to a particular trait or point of interest? (Lorenzen 2010)

Still further authors, mostly relying on evolutionary metaphors, concentrate on what makes a knowledge city and what sort of traits are best used to describe it. The most commonly used criteria include the capacity for perception (how efficiently they perceive their environment), their adaptive faculty (rapid incorporation of best practices into day-to-day operation), the innovative faculty (creating new bodies of knowledge)[12]; sensitivity (resilience, the ability of self-healing by combining old and new elements in flexible ways). It is no accident that synonyms have long included the concept of the learning city. This, however, primarily refers not so much to the knowledge-enhancing activity of the city as an organism as to the individual knowledge strategies employed by the citizens, and to interventions which can strengthen and improve these. Making citizens more future conscious, helping them in change management, offering good quality information services, rewarding knowledge or engaging comprehensive talent management are included in the range (Longworth 1999).[13] High priority target groups include digital natives (Garner-Dornan 2011), young families (Pasher et al., 2010) and children (Hertsman et al. 2010, McCracken 2011), since it is crucial to make cities attractive and liveable, so that they mobilise their knowledge locally. Naturally, the same is true of the representatives of the creative class and the creative cities that they help to make colourful and versatile, but this aspect is so amply discussed elsewhere that here we only mention it in passing.

Knowledge based urban development

11 The literature also uses the phrases 'knowledge zones', 'knowledge precincts' and 'knowledge corridors'.

12 Some authors consider the ability of innovation the most important criterion (Glaeser 2011), others are curious to find out how, instead of the traditional growth paradigm, major change can be expected from the new, disruptive, internationally novel types of innovation (Scheel-Rivera 2013). These latter classify Austin, USA, Auckland, New Zealand; Bangalore, India; Barcelona, Spain; Curitiba Brazil; Medellin, Columbia; Metz, France and Stavanger, Norway as innovative cities. At the same time, generating innovation is not the same as productively using or borrowing other people's innovations. The 'density' of people and companies particularly favours borrowing, and since the number of truly original novelties is low, the import of innovation also plays a greater role in problem solving (Lee–Rodriguez-Pose 2013).

13 For a description of the example of the community of Hume City, Australia, a city of 164,000 inhabitants as a creative learning community see Wheeler-Osborne (2010).

Knowledge-based urban development (KBUD) has multiple definitions and perspectives. Most often, and increasingly, it is seen as a new, strategic developmental approach to the challenge of the regeneration of cities inherited from the industrial era. The end in view is to promote development into a knowledge city by the multiplication of intellectual labour[14] (Yigitcanlar 2011).

This appellation does, however, contain a duality. This kind of development relies on the increasing priority of the information and knowledge sector, the replacement of traditional manufacturing and processing bases and on de-industrialisation – this is indeed how knowledge comes to be at the centre of the economy. Simultaneously, however, traditional branches of production and the various sub-systems of city management, as well as the buildings, devices and services which help us operate our everyday life (from transport through waste management to rain water drainage) are all becoming increasingly knowledge-based and knowledge intensive. This means that their output is defined not by the human labour and raw material they use so much as the knowledge that goes into planning and operating and the degree of digital intelligence which becomes encapsulated in the various physical objects they use. KBUD strives to overcome the purely descriptive and explanatory approaches to the 'knowledge city' by attempting to translate everything in terms of development and, within that, to knowledge development.

After the turn of the millennium a whole range of contending models laid claim to becoming an accepted base of classification. Today the aim is to consolidate these and create a unified framework for KBUD. Researchers of one of the world's leading knowledge centres (Queensland University of Technology, Brisbane, Australia) have perhaps come closest to solving this problem. In 2010 they published a gigantic frame system which comprises all of the important criteria contained in the five leading models developed up to that point. Here the universe of KBUD is covered by 4 major domains described by 12 characteristics and measured by 24 pairs of indicators or parameters (Sarimin et al. 2010:335).

Some time ago Richard V. Knight listed ten points which summarise how a knowledge-based perspective can define the directions of urban development (Knight 1995, summarised by Sarimin et al. 2010:328), which remain valid to this day:

- a community which is able to recognise, accept and appreciate knowledge as a source of prosperity;
- a city which is conscious of the role and importance of knowledge workers;
- a city which supports its population in understanding correctly the nature and role of knowledge;
- knowledge resources must be viewed in a regional frame;
- strengthening the knowledge infrastructure must be given priority;
- every member of the society must be granted access to carriers of knowledge-based activities;
- cities must be promoted as centres of excellence;
- there needs to be a maximum number of initiatives and constructions which support investment into local sources of knowledge;
- there needs to be a visionary image of the future based on the role of knowledge and other intangible assets;

14 The definitions of information work and knowledge work have not yet become crystallised. For zones of higher added value they are trying out the concept of 'symbol manipulation'; while the phrase most commonly used for 'any non-physical labour' is 'abstract labour'.

- the civic leadership of citizens should be improved.

In line with the above, then, KBUD is based on a triple foundation. It is at once a strategy for economic development, the development of the human infrastructure and of the development and management of the urban space. Accordingly, it comprises the previously independent paradigms of the knowledge economy[15], of intelligent communities and of smart urbanism.

Intelligent communities

Intelligent communities as the preconditions of a prosperous city, town or village, can appear in a range of different forms even in the traditional literature of urban history, mostly placing the emphasis on the cultural level, preparedness and educational attainment of the population.[16] This kind of 'intelligence', however, gained a new meaning after the publication of Alex Marshall's book on 'the secret life of cities' in which the author looked at cities, previously believed to be 'automatic organisms', from a completely new angle. He argued that even though technology and automation define what is possible on the structural and functional level of the basic infrastructural facilities, the rate at which they are born and operated, how useful they prove, what sort of return they produce or what sort of principles and priorities underlie their existence are the result of human control (Marshall 2006). In other words, technology is a given, but the way in which it becomes utilised is something that is typically defined through the level of preparedness, the choices and decisions of city leaders and officials, in other words by the 'soft infrastructure' of cities (Graves 2014).

Even the most recent developments offered by 'hard infrastructure' can only become accessible through the 'soft infrastructure'. The 'big data production' realised through the use of sensor clouds (with Songdo, Korea and Santander, Spain as two paragons) find ultimate meaning not in the latest developments in automation but in the kind of feedback which is produced based on human decisions. What happens in these instances is what John Jung considers 'revolutionary' in the life of cities. The quality of operation of this soft infrastructure is no longer defined today by the personal skills and abilities of the officials or elected leaders of cities but by the extent to which these 'bureaucrats and leaders' show a willingness to co-operate. The crucial factor is how aptly they represent and position their plans and visions; whether they can present the various directions of development in a clear, concise way, what sort of larger, overall visions these are incorporated in, and how successful they are in engaging the creative energies and activity of the population, of experts, of science and the local corporations and civic leaders in this process (Jung 2014).[17] A further relevant question is when and to what extent they realise that along with the radical changes in technology and society, they must also transform the ways in which 'urban politics' is

15 There is no need here to map out the topic of knowledge economies; for an introductory-systematic review see Z. Karvalics (2005).

16 The site of the most effervescent contemporary discourse, with topic monitoring, as well as independent posts, is the following: http://www.digitalcommunities.com/blogs/communities/

17 Inquiring into the factors that explain the successful modernisation of those countries of the periphery which were then catching up, Ernest Wilson recognised decades ago that the decisive factor was the quality of the flow of meaning taking place between decisive actors, rather than the performance of the individual actors themselves. His famous diamond model which illustrates this (the six channels connecting the four types of actors result in a rhomboid form similar to a diamond) is clearly a very good fit for knowledge cities.

generated. Individual communities must shift toward a democracy with a genuine, living content expressive of their own specific needs and situation (Newsom 2013).

This novel quality of collaboration could of course emerge even without a 'leading city elite' and there are other forms of opening fresh dimensions for urban life. Communities which excel in sharing their resources, commonly referred to as 'shared cities'[18], provide their citizens with a more efficient, safer, cheaper and more sustainable use of homes, transport and office space, granting them an economic advantage far from negligible, as well as a more vibrant community life (Scott 2014). A major step toward drafting an economics of collaborative consumption was taken by Botsman and Rogers (2010) when they identified and examined three distinct sub-systems:

- smart products[19] represent a major step towards balanced and sustainable production and consumption – they may be acquired along with the related services and this enables them to be customised, personalised and unique, with the customer's needs actually defining the way in which they look or are assembled;
- collaborative lifestyles offer community-based solutions and the optimisation of resources to citizens with similar needs, interests, problems or predicaments;
- different redistribution markets of resources within the community.

All three forms of collaboration are supported by various IT solutions, nor is it an accident that the key development of recent years, emerging in a way as a fourth area extending the three mentioned above, has been the conscious and intensive use of social media by various urban groups.

There have been excellent city level initiatives: Nurnberg and Manchester, for instance, have developed a whole line of best practices, and almost the entire arsenal of social media is available on the innovative sites open to urban communities, including the use of various types of software optimised for different ways of practicing participatory democracy. In 2007-2008 Melbourne launched the first wiki-based planning process in the world as part of the Future Melbourne project (Chatzkel-Dueckert 2011). Dialogue in the community often leads to the fruition of community projects (most often in the arts). One example is the Datascape project by the Dutch group of architects MVRDV[20], as an early attempt to reflect on an ever expanding data world, or the Paris Galaxy (Bidault-Waddington 2012), which aimed to bring freshness into the rigid world of urban planning procedures by the parallel projects of experimental artists.

The most widely known and most spectacular innovation, however, is something we owe to what is called hyperlocal activism – the most promising form of which is to organise neighbours into online communities. The pioneering American service provider, Nextdoor, has granted a web surface for management of their common affairs to over 40,000 residential communities since it started operating in 2010.[21] Besides producing profits and increasing

18 Model cities are Denver, Portland, Boston and Madrid.

19 In terms of business models, we speak of PSSs (Product-service systems), the literature and practice were generated after the turn of the millennium.

20 https://ksacommunity.osu.edu/miller5319osuedu/blog/2011/05/datascape

21 http://www.theverge.com/2014/8/18/6030393/nextdoor-private-social-network-40000-neighborhoods The Hungarian equivalent started in 2014 under the name miutcánk.hu ('ourstreet.hu'), primarily with the hope of creating collective forms for garage sales and travel to work.

security, by doing so they contribute to ameliorating the dysfunctions flowing from the legendary isolation of the American society and create new channels between citizens' communities and local administrations (Shueh 2014, Dunkelman 2014). It is for similar considerations that the British suggested introducing the category of the Neighbourhood Planning Area (NPA) into local planning procedures.[22] To date, over a thousand plans have been completed using the facility, and the goal is to cover the entire area of England by about 20,000 NPAs.

In the meantime, social science has provided fresh, spectacular and convincing evidence as to why communities with stronger relationship networks are 'smarter'. Sociologist Susan Pinker has established that strong face-to-face relationships result in citizens who are healthier, who live longer, are more willing to learn, more accurate in their prognoses, better at self-healing and altogether more resilient (Pinker 2014).

Ever closer scrutiny has also established that richer groups of the society profit more and faster from neighbourhood communities and therefore it is an urgent task to make conscious efforts to strengthen the relationship networks of poorer, lower status and more segregated local communities, too.[23] One of the most frequently quoted authors of the literature on knowledge cities came to a similar conclusions. The existing high level of social inequality is a major hindrance to the KBUD strategy of Brisbane (and, of course, any other city) (Yigitcanlar 2011). Little wonder, as economic and social segregation create distance, restrict cross-direction currents, easily turn into distrust and over the long term easily result in the deterioration of the performance of the entire community. Today, however, it is no longer satisfactory to simply 'aid' the underprivileged in the spirit of traditional enlightened optimism. Intelligent communities claim that participation is the key factor which can provide some sort of solid resistance to structures of inequality so stubborn in reproducing themselves.

Smart urbanism

Smart urbanism does not mean that we 'smarten up' the already existing disciplines surrounding urban research, but the application of a rich tradition of urban research, with its full arsenal of methodology and approaches, to knowledge cities and smart communities. In other words, this concept embodies the expectation that urban scholars should assist knowledge-based community development by pragmatic knowledge which also has something to contribute to direct intervention-planning.

'Europe needs intelligent urbanism, not intelligent cities', proclaims Maarten Hajer in one of the most prestigious magazines of the European Union on public and professional affairs (Hajer 2014). Instead of smart city programmes which place the emphasis on intelligent devices, he stresses the importance of human-centred planning. This last criterion has become a kind of common denominator for a multiplicity of divergent urban experiments on the intelligent city. They only vary in stressing different aspects of everyday life. Each of the fourfold set of criteria (viable, safe, sustainable and healthy) figures in a multitude of contexts, but authors often fail to translate these to the dimension of the life of the individual

http://www.kreativ.hu/interaktiv/cikk/remek_otletre_epul_az_uj_kozossegi_oldal

22 Neighbourhood planning is, actually, a discourse which goes back a hundred years in the dictionary of urban development, having started with a publication in 1915. The topic began to attract concentrated attention in the 1990's. Naturally, NPA also relies on these pre-formations, but at least as much also on the fresh principles and tools of the 'intelligent community'.

23 http://www.theinformationdaily.com/2014/08/15/can-neighbourhood-planning-benefit-places-low-on-social-capital

citizen (as does, e.g. Jan Gehl, when instead of how long a distance takes to drive or bike he makes walking the measure through which we should perceive and process urban spaces and currents (Gehl 2010). Other authors put their focus elsewhere, e.g. on the ’holy trinity’ of sports, entertainment and culture (Rosentraub 2014). An initiative launched by Kevin Campbell, a leading British urbanist[24], differs from the above in that instead of questions of content it offers new points of departure for approach and methodology. Campbell is convinced that the way ahead is not through an abundance of plans and visions, but through a multitude of small incremental changes built organically upon each other (‘making massive small change’). This means the simultaneous success of a host of small ideas. Instead of thinking in terms of places and objects, we should focus development on states and conditions and place ’civic leadership’ into a potent position.

‘Big data’ are not only available for smartening up city leadership and hackers, but also offer city researchers the chance to explore new dimensions and connections – if they would only tak grasp chance. The explanatory and solving power which researchers acquire this way can instantly feed into and contribute to specific planning processes (Kitchin 2014).

Knowledge governance – the common multiple

The knowledge governance of cities is a nascent paradigm which started out from the direction of business-related disciplines and is being inscribed over the systemic level of knowledge management. It offers to act as a melting pot for concepts of urban development which have divergent points of departure but place knowledge in the centre. The direction of ‘knowledge governance’ emerged as a kind of meta-level to the already triumphant knowledge management approaches and methodologies back in the mid-1990s. A few years later, as a result of powerful pressure for conceptual innovation, the interpretative domain of knowledge governance was extended to a more comprehensive field, with the aim to assist a more overarching and comparative description, understanding and analysis of the expanding universe of knowledge.

Knowledge governance means creating the structures and mechanisms within the context of strategic planning which support the processes of generating and sharing knowledge on the various systemic levels of institutions and social conglomerations. Knowledge governance is holistic instead of divisional. It focuses on the capability of adaptation and innovation instead of trying to optimise functioning. It builds knowledge instead of merely acquiring existing knowledge – i.e. learning in the simple sense. It manifests in integrated management, going beyond ‘distributed’ leadership. Its reasoning is abductive (based on a profound familiarity with the system and its environs) instead of inductive or deductive. Rather than technical thinking, it is characterised by design-oriented thinking.

Over the past few years, alongside the world of large corporations, it has become possible and necessary to apply criteria of knowledge governance in more and more contexts of varying scales.

Table 1. *Vertical expansion of the discourse of knowledge governance*[25]

Original model (Grandori, 1997)	**Two-level model (Whitley, 2000)**	**Three-level model (Dalal - Z. Karvalics, 2011)**	**Four level model (Z. Karvalics 2012)**

24 http://www.smarturbanism.org.uk/

25 The shade of the colouring indicates the degree of maturity of the discourse.

Company	Company *Micro-level*	Company *Micro-level*	Individuals *Nano-level*
			Company *Micro-level*
	Nation *Macro-level*	Nation *Meso-level*	Nation *Meso-level*
		Global *Macro-level*	Global *Macro-level*

Once the field of knowledge governance has expanded to four levels, and become detached from its original corporate roots[26], the time has arrived for horizontal expansion on the micro-level. Besides the knowledge governance of companies, that of large organisations, universities and cities has also become possible to cultivate and to examine on the objective level (moreover, the two can also be connected).

Table 2. *Horizontal expansion of the micro-levels of knowledge governance*

Nano-level	Individual			
Micro-level	Company	Large organisation	City	University
Meso-level	Nation			
Macro-level	Global			

From a theoretical point of view, placing cities within the conceptual frame of knowledge governance and examining local knowledge governance means that the domain of knowledge is shifting from the direction of management studies toward the interdisciplinary social sciences. This entails a re-interpretation of those concepts, approaches and results of communication studies, the sociology of organisations and of knowledge, the economics of innovation, political strategy-making, urban and regional development, critical theory and critical thinking and social informatics which lend themselves to integration.

So far the literature of knowledge governance has only sporadically made mention of cities as a special arena (Antonelli et al. 2008). As regards urbanists, only a few of them have made use of the conceptual network of knowledge governance – as did Menkhoff-Evers (2013) taking Singapor as an example. This way, the question is what sort of practical ideas, methods or guidelines might be found in the literature of knowledge cities if our intention is to support the practice of knowledge governance.

Knowledge governance in practice – models and approaches

For our own part, but in agreement with many of the previously mentioned authors, we find that the most fertile approaches, the ones that best stood the test of time out of all the

26 Although in theory the goal is to become distanced from corporations, this does not mean that application of the rich conceptual and methodological traditions which were created during the glorious decades of corporate knowledge management is not of primary importance. In fact, this is one of the justifications of conceptual expansion: all that was developed for the corporate world can be eminently well applied to other micro-level entities.

feverishly propagated models, are those that attempt to interpret the knowledge city from the point of view of the city-dweller, i.e. the 'knowledge citizen' (Martinez, 2006).

Ron Dvir, for instance, constructs his model from the angle of individual experiences, the kind of personal gains and advantages which can better the quality of everyday life. In this model he considers the knowledge city 'a milieu which triggers and enables an intensive, ongoing, rich, diverse and complex flow of Knowledge Moments' (Dvir 2005).

A 'knowledge moment' is a spontaneous or planned personal experience in which we discover, create, sustain, exchange or transform knowledge. Knowledge moments emerge at times and in places when dialogue or an exchange of meaning takes place among People, at a clearly identifiable Place with a definite Purpose in relation to a structured or unstructured Process.

This is why we can look at knowledge cities as 'a collage of human knowledge moments'. A collage of this kind will include every one of the banal target areas of a knowledge governance approach, traditional institutions of knowledge (the education system, research spots, knowledge jobs, urban institutions of memory etc.) or the notable hubs such as 'knowledge champions' and 'knowledge gatekeepers'[27], always with a character typical of the town or city in question. Knowledge hubs act as engines of innovation, and inventorying these will be far more help with formalising a planning process than that massively overused tool, SWOT analysis, so inappropriate in this setting. The natural milieu of knowledge production is dialogue, therefore no matter how complex the urban space is, we can always identify knowledge moments associated with the particular places and the knowledge spill-overs resulting from the given density of people (Carlino 2001). Dvir and Pasher (2004) actually list these one by one – we enrich this list by footnote commentaries, additions and explanations, placing some well-known old discourses in a knowledge governance context.

- Cafés and other 'third places'[28]
- Large urban events[29]
- Libraries[30]

27 These categories were imported by the literature of knowledge governance from knowledge management. They cover the persons who absorb knowledge from the outside and mediate it toward the inside, the people that others can go to for information. This role can be fulfilled by institutions as well as people, such as for instance a college (Fachinelli 2011).

28 In the literature of urban sociology and community theory this means the places where we spend the most (quality community) time after our home and work. In its earlier stages, urban planning was often resistant to recognising the value of third places and were quite willing to give up such 'third places' for other considerations of city planning. In Hungary, for instance, considerations of water and flood management led to the loss of third places at water mills on the urban stretch of rivers, even though these mill ponds had been important leisure and community locations. In fact, they often carried a neighbourhood character in a far more advanced way than the later, faceless and uniform model of 'one city – one lido'. In cases like this it is possible to speak of partial reconstruction, but all that is renewed is the building – the 'third place' is usually lost forever. As regards 'created traditions', they do not turn out a success unless they manage to form a community (it is enough to look at the increasingly specialised market of summer festivals promoted for young people).

29 Besides the meeting of local inhabitants and their 'experiential communities' which take shape here, meeting people coming for the event from the outside is also a vital consideration.

30 Libraries today are shifting from a role of mere mediation of knowledge toward a range of other roles. They become a locus to spread new information literacy on a mass scale and to offer novel information services; they are becoming what is called a 'third place', and partly act as distinguished local centres of generating knowledge (Z. Karvalics 2009).

- Physical or virtual ’city gates’[31]
- Museums[32]
- Future outlook towers[33]
- Universities[34]
- Local capital market[35]
- Knowledge-intensive industrial quarters and science parks[36]
- Brownfield sites, poorly used and misued urban spaces[37]
- Digital infrastructure[38]

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31 In today’s ‘attention economy’ it is extremely important what kind of first impressions define a city’s image or perception. This may mean the early glimpses of the urban landscape upon entry or a vertical portal as a target of web browsing. A typical intervention deployed in many knowledge city projects is to improve the visual surroundings of the road leading from the airport to the heart of the city or to radically refashion the city’s website.

32 In today’s information society, a museum is far more than a place which stores and partially exhibits tangible heritage. It provides an important ‘third place’ for socialising people into culture; they act as content providers, as network hubs and the bastions of local knowledge production.

33 The aim is to awaken a future-conscious and future-oriented attitude. The form that this takes (interactive play-houses, popular science exhibitions, academic competitions, a column in the local newspaper etc.) depends on local characteristics.

34 Today it is no longer sufficient to pronounce the magic word ‘university’ – this almost automatically entails the connection between universities and industry, as well as universities and city leaderships (most of all with research projects of the ‘living lab’ type) and the model of the community college specialised to suit the local need for knowledge. In the meantime, in the outside world a change is taking shape by the explosive appearance of Massive Open Online Courses (MOOC) which presents a huge challenge to the entire world, placing leading universities into a position of global dominance and posing a huge threat to small local universities.

35 Let us not forget: money is partly a measure of value and is partly an indispensable means of (start-up) incubation. Even if a local ecosystem of knowledge does manage to emerge, it cannot (yet) do without support from the money market.

36 The world has stepped over its earlier, megalomaniacal concept of the knowledge city which was striving to organise entire cities around the cultivation of the sciences and which was best represented by the Japanese who created Kansai and Tsukuba. The aim is no longer to create a concentration of knowledge by bringing to life an academic city or quarter. The Science City project of Copenhagen, for instance, launched an open tender for a duration of twenty years, making it a goal to connect already existing knowledge hot-points with ubiquitous cycle-paths instead of creating the usual compound of vast constructivist buildings and great expanses of green areas.
(See http://copenhagensciencecity.dk/wpcontent/uploads/2013/06/Copenhagen_Science_City_ENG.pdf)
Universities are also integrated with the help of ‘third places’ such as café-bookshops and exhibition areas. Paris is making determined efforts to locate as many academic institutions as possible in the suburbs. Today, knowledge-based planning solutions are used to turn analyses by urban knowledge hubs into useful tools for policy-makers. Examples include scientometric analysis combined with spatial informatics – this is what they call spatial scientometrics (van Noorden 2010).

37 It might appear strange at first sight that a derelict and deserted factory complex or an ill-kept stretch of stream in a concrete bed by the edge of the city can turn ‘knowledge-based’. But in these cases there is nothing to stop people’s imagination. Brown site locations are like magnets – they attract creativity, new ideas and new ways of utilisation, as well as completely unprecedented new inventions. By now we could easily compile a separate volume from the chronicle of the most wide-spread and successful brown-field developments (with some best practices from Hungary).

All of this is accompanied by the following considerations, to be applied as rules of thumb. Urban planning must be built on the historically given geographic, cultural and social characteristics. Everything that is possible must be opened to the citizens. Hot points of innovation must be connected with both each other and the population. Co-operation needs to thrive among even the most diverse academic and professional areas.

Ergazakis és Metaxiotis (2011) incorporated the entire development process of the knowledge city in the strategic methodology which, now known as KnowCis 2.0, offers a comprehensive planning framework from diagnosis all the way to evaluating and assessing the results of interventions. Here we merely highlight a few aspects of this complex and multi-layered methodology which we considered particularly noteworthy.

Just as in the past, the successful programmes of nation states as information societies could not be conceived without high level specialised co-ordination, so the entire strategic process is best launched by forming some sort of a body corresponding to a Knowledge City Committee. This body can partly act as a scene for dialogue involving representatives of science, business and civil society, and partly has a mandate to shape urban policy and the relevant segments of local government by its decisions and guidance (by virtue of the fact that their leaders are also members of the committee). It is this committee that can authorise the assessment of the status quo – where the city stands in terms of knowledge building and how statistical (more recently 'big') data, as well as qualitative sources analysing historical and contemporary conditions serve their orientation.

The authors outline nine areas for strategy making and intervention (urban knowledge processes; ICT infrastructure and the information literacy of the population; citizens' rights in the knowledge society; research, business innovation and business development; challenges of managing the public sphere; networks and synergies among the various actors; the skill and accessibility of the human resource capital; the inclusive, international and multi-ethnic character of the city; the publicity and visibility of the knowledge city concept). They name five goals (increasing knowledge intensity; democratisation of knowledge processes; strengthening the business environment; approaching digital reception from the angle of the digital divide; sustainable urban development). This is the kind of raw material from which, by using the right decision-making techniques, we can shape what the authors call strings of action after which the strategy moves on through the customary steps of strategy building.

Model KnowCis 2.0 by these Greek scientists gives us an excellent sense of how a strategic concept is built in the pre-knowledge governance period. Although it contains innumerable authentic elements, it enables us to exemplify the differences offered by the knowledge governance approach. This methodology, tested in the city of Maroussi (80,000 inhabitants) has two major shortcomings.

Despite all efforts to appear specific, it is actually a general developmental methodology and, as such, it is not actually a strategy so much as a way of making action plans, which still carries the traces of the knowledge management approach. It tries to define actions for every possible area of intervention, and as such this large number of partial elements does not support a comprehensive, daring innovative master plan in service of original and

38 By digital infrastructure we mean not only the network and mobile basic services of the early stages, even if we add to it 'calculation clouds' or the increase of broad band access. Further very important factors include the business model (e.g. the question of community owned networks), the manner of access. Services and support accessible to the population increase in value; as does the quality of use including the human infrastructure. Today, digitalising a data stock which embodies the intangible heritage of a community and making it searchable have also become a part of the infrastructure.

fundamental goals, but shapes a kind of string of homework exercises which will never add up to producing a competitive advantage – at best they will slow down the process of falling behind. Instead of being holistic, it remains divisional.

An even greater problem is that this methodology is designed for 'any city' in any initial predicament. It lacks the means to assess the degree of evolutionary integration of the selected city, the kind of challenges it is facing and the directions of knowledge development which might best suit these conditions. The management approach only looks inward, whereas in fact if you want clarity about what can be done and what is worth doing in a city, what sort of realistic visions can be formulated. It is inevitable to look outward as well – to explore possible external opportunities and then, with this knowledge, assess the internal capabilities (for more detail on this see Z. Karvalics 2011).

The idea that the world is becoming increasingly knowledge intensive is not a hollow buzzword but a genuine change in patterns, which re-structures the strategic force-field. The reason why scientific presence and the creation or strengthening of the knowledge industry are just now becoming possible is that the macro-universe of cultivating the sciences and developing knowledge-based technologies is now expanding at a breath-taking rate. We are witnessing an expansive boom and hybridisation of inter-disciplines, ever newer subject areas; new generation technological solutions are being born, causing a proliferation of 'domains' which villages, towns and cities set out to 'localise', i.e., adopt, with a fair hope of success. No matter whether we are talking of a peripheral small town, such as Akureyri, Iceland with is barely 18,000 inhabitants which founded a university (Edvardsson 2013), or one of the metropolises of the supposedly underdeveloped 'Southern countries' such as Isphahan, Iran, which created a knowledge strategy in order to satisfy the needs of knowledge workers (Marjaneh 2013). It can be an intelligent and intelligible goal for any village, town or city, irrespective of its size, to transform itself into an accepted physical venue for communities of knowledge and interest along some crossing point of scholarship, business and culture and enjoy all the positive consequences of the resulting secondary outcomes.[39]

We have arrived back at our point of departure. If we had to name a single objective which, like a drop of the ocean, contains every trait of knowledge governance in a comprised form, this would be the ability of knowledge carriers to attract and retain interest.

Epilogue. Two examples of pre-modern knowledge governance: Raguza and Nyíregyháza

If we ask the question what are the chances of the spirit of knowledge governance gaining strength and becoming incorporated in the practice of urban planning in contemporary Hungary, the result is disheartening. The type of political culture and the kind of practice in urban leadership and city management that have emerged since the post-communist transition, as well as the catatonic state of the civil society make it practically hopeless that principles of knowledge governance could be put in practice. Waiting for better times and enlivening collaboration we now turn to the past to find evidence that successful practices of knowledge governance existed well before the digital era of the 21st century.[40] We present one example

39 This is why in the context of 'becoming a capital of the world' we examined in some depth the way in which break-out points are found with the help of the logic of the 'long tail' known from Internet economy. (Z. Karvalics 2013).

40 Talking about history in the context of the knowledge city is not unparalleled. Hall (1998) devoted a whole book to presenting 'creative cities' of world history.

from abroad and one from Hungary, without any comment. The attentive reader can recognise the ways in which the previously described theoretical considerations appear in practice here.

The small city state of Raguza (today's Dubrovnik) along the Adriatic coast was able to retain its independence without the use of armed force for 500 years amidst the triple pressure of the Habsburgs, Venice and the Turks, until it finally lost its independence in 1808. Filip Ivanisevic attributes this unparalleled success of survival clearly to the power of knowledge flowing from the diplomatic force field. Due to its geo-political characteristics the future of the city was determined by the events taking place well beyond its borders; this way it was clear that Raguza's destiny depended on extended environmental scanning. This is why they created the world's first professional intelligence agency[41], and later their 80 'official' ambassadors handed them first-hand information about all that was happening on the international scene (Ivanisevic,2010), enabling them to shape their decisions and steps masterfully in line with these events. During all of this time, they had a city leadership which differed widely in its approach from the rest of Europe in that it relied heavily on the active participation of citizens. Thus, it is no wonder that throughout the Middle Ages and the early modern period Raguza remained an innovative and creative city extremely open to new ideas.

A very good example of this is the way in which, owing to the city's merchant citizens, they opened the first quarantine of the world in 1377. The plague had not spared the local population; but since they lived almost exclusively by trade, they could not suspend traffic in their harbour for the duration of epidemics (as did, for instance, Venice). Having seen examples of the successful isolation of lepers elsewhere, merchants of Raguza themselves proposed that they should appoint a few of the surrounding islands where they could remain for a month before entering the city. The city's decision-making body, the Grand Council, embraced the idea and in a very short time passed the necessary ruling. It may be going too far to take this as sufficient pretext to call Raguza 'the first knowledge city of the world', as Ivanisevic does, but it is definite that the community of free and creative citizens was permeated by the spirit of humanism. This was the first place in the world, for instance, where slavery was abolished, in 1416. At the end of the 15th century they admitted some of the Jews expelled from the Spanish territory; while from Hungary they received immigrant artisans, painters and craftsmen (Stojkovski 2010). Even before that, however, they were a multi-lingual and multi-cultural community supported in its literacy by excellent archives created in the second half of the 13th century. The translators of Raguza (as knowledge workers) in turn played a great role in the emergence of modern diplomacy. The know-how they possessed in ship-building made their sea-liners famous throughout the world and the city also joined in at a very early stage with the world's trade in credit and insurance policies *('intellegentia pecuniae querendo*'). The 'Athens of the Southern Slavs', as it was referred to in the past to acknowledge its rich art and literary tradition, can serve as an example to this very day how the knowledge of citizens can be channelled on a strategic level into promoting public affairs.

Hungary also has some interesting examples to offer as regards the knowledge governance of cities. One lesser known story starts at about the time when Raguza's story

41 A senate ruling dating back to August 12, 1301 states that it is 'electing the right and appropriate people to collect information about all useful things or knowledge, inside or outside of the borders, which, when forwarded to the leaders, can serve the betterment and prosperity of this state (Dedijer 2002). The ruling actually names the first three persons whose task it became to gather news and information. Later this number began to grow, and on top of this all merchants, whether travelling or working in one of the depots in Raguza itself, still continued to remain 'the eyes and ears of his country'. From the 18th century onwards the city subscribed to every important Italian and Dutch newspaper to make sure they were kept abreast of events.

ends – that of Nyíregyháza, Hungary's easternmost large city.[42] Previously a place of little significance, the town acquired its freedom (and its license as a market town) step by step through purchase. It first began to distinguish itself from its broader environment in the 1750s when its peasant leaders published a deftly phrased announcement to invite settlers. This indeed successfully triggered first an organised and later a spontaneous wave of immigration. First to arrive were Slovak and German speaking Lutherans from two main directions (Békés County and Upper Hungary); to be followed by Hungarian speaking immigrants of different denomination from different countries. After free-migrant serfs, the arrivals included a growing number of artisans and intellectuals who had travelled widely and gained familiarity with the ways of the world; in fact, the new inhabitants even included some noblemen. The first wave gave Nyíregyháza 2,000 new inhabitants, later the population size grew to 7,000 by 1780 and over 17,000 by the 1830s. This variety of languages, religious denominations, trades and professions led to the situation where the stock of knowledge existing in the heads of the city's inhabitants far exceeded the traditional knowledge level of the neighbouring towns and villages. The remarkable effects of immigration continued even after the waves of intense influx dropped. This was a phase when marriage proved to be the most powerful engine of migration, except amongst the highly endogenous Lutherans. 'Roman and Greek Catholics, as well as Calvinists tended to bring spouses from other places, and in this form import new information, habits, world views and lifestyles.'

Imported knowledge soon turned into economic and social innovation. 'Imported' technologies led to a flourishing in agricultural production - primarily in stockbreeding which had previously been little cultivated in this area. After a while, the city had to rent new stretches of land (which they were able to do thanks to the common monetary fund of the community). Instead of the traditional annual drawing with arrows, they decided (following the example of Szarvas) to divide their land into permanent plots.

Their self-governing administration did not support a separate administrative body – instead, the elected board of magistrates comprised the most prestigious citizens of the population: 'farmers, artisans, intellectuals who, being apt or learned men, were suitable for sustaining official (…) connections' and for strategic management of the city's affairs. Although at first 'officials were elected only for a year', so that 'farming should not be hindered by work for the community', re-election became quite common later on. After gaining autonomy, they studied thoroughly the statutes of other cities (Kecskemét, Nagykőrös, Rimaszombat) and went on to draft their own following these models. They were more than willing to employ knowledge services whenever they sensed a shortage of information: for legal affairs they hired experts in Buda, Bratislava and Vienna; they frequently purchased professional advice.

Each time one of them went to remote locations, to market or on official errands, to conduct exchange transactions or to interview potential priests, they always took the occasion to gather information, making proper 'study trips', visiting 'now a sample farm, then a saltpetre sweeping spot, a mill employing a new technology', or a city that they considered a worthwhile model for any reason.

The kind of 'sprawl' which theoreticians of creative cities are on the lookout for was certainly available from a number of sources. 'Audiences welcomed itinerant actors who

42 The present description of Nyíregyháza is based entirely on a MS shortly to be published. This last section, although paraphrased, shortened or transformed at many points, relies entirely on a text by Éva Kujbusné Mecsei, using a number of her earlier publications (Kujbusné 2014). I sometimes quote verbatim (indicated by quotation marks), at other times, abridgements are required by the logic of my reasoning.

could also perform in German, as well as itinerant students or would-be artisans', no less so than visitors to the fairs from other parts of the region, itinerant traders from distant lands, stock traders from various remote parts of the empire or Jews trading in brandy. At harvest time they welcomed seasonal workers, in winter they would receive labourers from Upper Hungary, the Polish or Czech parts who came to do weaving or as servants. Everyone who arrived for a short or a more extended stay would bring with them 'news, customs, stories, songs and dances of their previous residence'.

The community took care of the appropriate training of the rising generations. Students of their church-run schools demonstrated their knowledge at public examinations twice a year, in the church. Emphasising the importance of literacy, the city board of magistrates encouraged artisans to hire apprentices who had gone to school. The board of orphans' guardians, in turn, were commissioned to make sure that the orphans were served well, received education and stayed in the school system until they had learned to read and write.

I would not be surprised if local historians proved able to identify certain surviving effects and influences of 18th-19th century knowledge government active to this day at Nyíregyháza, despite the fact that over the decades a whole line of different political regimes placed different obstacles in the way of autonomy, mobility, independent economic activity and cultural fertility.

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