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The New Urban World

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1. Introduction

1.1 Welcome from the President: Yoshiro Higano



I am happy to offer you herewith for the last time my greetings as RSAI president. Also on this occasion I would like to address the emerging urbanization trends in our world. Approximately 70 to 80% of the world

population is expected to live in cities or urban areas in the decades to come. Urbanisation is caused by strong agglomeration forces. It prompts unprecedented challenges in terms of sustainability, social cohesion and economic vitality. It is evident that the material in this issue is at the core of regional science. Hence, RSAI should take a leading role in thoroughly analyzing these issues.

I am writing this introduction while participating in the International Scientific Workshop on 'Future Challenges of the New Urban World: what model of development for the Moroccan City?'; organized by the Royal Institute for Strategic Studies (IRES) Rabat, in collaboration with RSAI and other organisations. This high-level workshop is the fifth in a series of special sessions, initiated by Peter Nijkamp, Karima Kourtit, and Mark Partridge, in Barcelona in 2011. More than 20 RSAI members participated in the workshop in Rabat (Morocco).

Moroccan participants from several major institutes including IRES and local and national governments reported their experiences on urban land use planning, and many of these plans have actually been implemented. RSAI experts quickly

helped to profile the issues and express perspectives that may be helpful for resolution of urban problems.



Delegates at Morocco workshop

This initiative is a positive example of the great scientific potential of RSAI members and should be further implemented in the future. It is my wish as outgoing RSAI president that we pursue these ideas further.

1.2 Welcome from the Editors

*Graham Clarke and
Eveline van Leeuwen*



Again, we are very happy to bring you this latest edition of the RSAI newsletter. For the first time since its revival in 2008, we have a kind of special issue, co-edited by Peter Nijkamp, Mark Partridge and Karima Kourtit. We think the contributions offer some food for thought concerning old and new developments in the Urban World. The newsletter also includes a profile of the Athens Regional Development Institute under our 'Centres of regional science'

series, and we also hear from Art Getis under our 'Meet the Fellows' series. A range of news items are also presented – enjoy!

1.3 Introduction to the theme 'The New Urban World'

*Peter Nijkamp, Mark Partridge,
Karima Kourtit*



At various recent RSAI conferences – in Barcelona, Hawaii, Timisoara, Beijing, Bratislava, Rabat – a new model for agenda formation and joint brainstorming on strategic research issues in regional science has been experimented. This new endeavour brought together senior and junior regional scientists who were invited to present their research and views on 'The New Urban World'. A great variety of different organizational modes has been tried out, each with a double aim: (i) to generate new ideas on strategic research issues centred around the urban future of our world; (ii) to enhance interaction among 'rising stars' and 'super-nova stars' in the RSAI research community. The various sessions were highlighted by innovative approaches for presentation and in engaging audience participation by having the audience vote on their preferred outcome. For instance, the audience selected an urban or rural

future by wearing different coloured hats in Hawaii, while they voted for the best urban city of 2050 in a television game-show format in Bratislava.

In this edition of the RSAI newsletter, we present you several results from this innovative initiative.

2. The Big Three

2.1 City-regions in a global world: Some reflections.

*Manfred Fischer (right, below) WU,
Vienna*



City-regions may be viewed as cities defined in a functional rather than administrative sense. There are more than 300 city-regions around the world with populations greater than one million. More than 20 city-regions have populations in excess of 10 million.

They range from familiar metropolitan agglomerations dominated by a strongly developed core such as the London region or Beijing, to more polycentric geographic units as in the cases of the urban networks of the Randstad or Rhine-Ruhr area, or the Pearl River Delta.

In today's urban world, some city-regions are prospering, while at the same time there are city-regions having problems. The critical economic success factors in this world may be summarized by the four Cs: Communication/information infrastructure; Capital/investment; Corporation/industry and services; and Consumer/individuals. The four Cs are working well in some smaller countries, regions and city-regions. They have capital and communication infrastructure, and they have attracted corporations and citizens to create a nucleus for prosperity.

Cities that provide fluid land and property markets and other supportive institutions will more likely flourish over time as the needs of the market change. But bigger city size and economic density bring their own problems. For people and firms, city living comes at a price in both developing and developed countries. Traffic in Central London, for example, moves at only 20 km per hour – the same speed as horse drawn carriages a hundred years ago. Beijing is notorious for its pollution-induced smog. Diseconomies of scale reduce the gains from agglomeration economies.

The main source of diseconomies is the paucity of land in places where agglomeration economies take hold. Land is limited and as economic growth occurs, it has to be used with increasing intensity. The substitution of capital for land has its limits, and the increasing shortage of land in cities leads to higher rents and congestion costs for workers and firms. Beijing is a good example of that. Congestion or diseconomies of scale reduce the gains from agglomeration economies. But restricting the growth of cities is not the answer. There is no evidence that the agglomeration economies of megacities have been exhausted.

The problem has more to do with the spatial structure of the city and

investments in infrastructure. The growth of vehicle ownership is rising 15 to 20 percent annually in much of the developing world. But most countries have not matched this growth with a parallel expansion of transportation infrastructure, so traffic congestion is severe. But it is not just a matter of increasing this capacity. In city-regions such as Bangkok and Manila, it is the management and the use of road space that is important.

For policy makers the challenge is to best relax the constraints generated by the congestion and overcrowding of land and resources so that the benefits of agglomeration economies can be maximized. In many cases these constraints have been tightened by misguided land use policies and planning failures, only adding to congestion. In other words, the processes of worldwide economic integration and accelerated urban growth make traditional planning and policy strategies in the city-regions increasingly problematic.

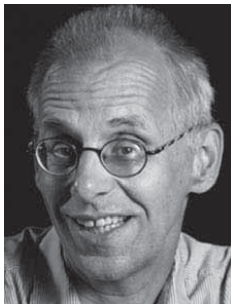
The global city-regions in the developing world are not prospering (except China), partly because of governance issues and partly because of disparities created in the host country by accommodating one or two megacities within its infrastructure. Globalization and its associated forms of economic change tend to widen the gap between the wealthy and the poor in economic, social and spatial terms, not only between, but also within cities.

Challenges in the developing world are greater, because in the developed world, the population in the next twenty-five years will grow only by about two percent. Cities in developing countries will double in size. They do not have the infrastructure. This poses huge challenges to the management of global city-regions and challenges to those in the international community who want to

assist in the fight against poverty, in the establishment of a sustainable environment, and in the development of a more just world.

2.2 Cities At Risk

Piet Rietveld, VU Amsterdam



An ever increasing part of the world population lives in cities. Since migrants vote with their feet, this is a clear indication that life in cities is more attractive and work

in cities is more productive than in rural areas.

Not every city's development trajectory is a success story, however. During the centuries cities have been hit by disasters with some large impacts. Table 1 gives a small sample of events, some well-known, some less well-known, having a strong adverse impact on population or the capital stock of cities. Events that have particularly received much attention during the past decade are the attack on the twin towers in New York, the Banda Aceh tsunami, the flood in New Orleans and the earthquake near Port-au-Prince.

The table illustrates the considerable range of disasters that may hit cities: natural disasters such as earthquakes, volcano eruptions, tsunamis and floods; contagious diseases, and also war and terrorist attacks. Some of the cities just ceased to exist after a unique large disaster or a series of disasters (Pompei, Carthage, Caesarea). Other cities have experienced serious damage but have soon recovered. This has been studied for example in the work of Davis and Weinstein (2001) who addressed the development of cities in Japan and Bosker, Brakmand and Garretsen (2008)

who considered German cities with specific attention to the impact of the second world war.

Table 1: Impact of disasters on a sample of cities (# victims).

City (year)	# victims (×1000)	Cause
Carthage (146 BC)	200	War
Pompei (79)	3	Volcano
London (1666)	0.1	Fire
Lisbon (1755)	50	Earthquake, fire
Brussels (1918/19)	5	Disease (Spanish flu)
Tokyo (1923)	100	Earthquake + fire
Dresden (1945)	25	War
Hiroshima (1945)	80	War
Hanoi (1971)	50	Flood
Banjiao (1975)	100	Hurricane, flood
Kobe (1995)	5	Earthquake
Istanbul (1999)	10	Earthquake
New York (2001)	3	Terrorist attack
Banda Aceh (2004)	100	Tsunami
Bam (2003)	30	Earthquake
New Orleans (2005)	2	Hurricane + Flood
Port-au-Prince (2009)	290	Earthquake

Is life in cities more risky?

The types of disasters shown in Table 1 may become manifest everywhere, not necessarily only in large cities. This leads to the question whether large cities are more vulnerable than small settlements. In order to address this question two factors are considered: the probability that a disaster occurs at a certain place and the degree of risk adaptation.

The probability of an accident occurring depends of course on the type of accidents. Consistently adverse conditions such as permanent serious droughts in an area will not favour the existence and development of a large city. So at extremely dangerous places one does not expect large cities to exist. But a closer look at the world map shows that most large cities are located at places where considerable risk exists.

In particular in all continents large cities are primarily found near the sea and in large deltas where there is considerable flood risk. There are obvious reasons for such a water oriented location. During most of the formative centuries of cities, ships were the cheapest transport mode, and this has strongly stimulated the development of cities at such locations.



Fig. 1 The Katrina hurricane in the Gulf of Mexico

The second factor concerns the degree of risk adaptation. Cities can invest to protect themselves against disasters. Well-known ways are the construction of fortifications against invaders and the building of dykes against floods. Cost benefit calculations shed light on the optimal level of prevention. Given the economies of scale in protection against disasters, it makes sense to aim at higher levels of protection at places where population size is large and thus the potential damage of disasters is high. Thus in the end one may expect higher levels of risk adaptation in strongly urbanized countries. Even in the case of famine and civil war, people tend to move to large cities to find relief. It is here that the provision of help services tends to be concentrated. Hence the conclusion is that large cities tend to be safer.

But there are exceptions to this result. A telling example is the case of the choice of targets in wars and in particular with terrorist attacks. The aim of terrorists is to make a big impression and this leads

to targets with a high symbolic value, large cities being evident examples. Within cities again the choice of target is not random, but addressing specific buildings such as the twin towers in New York. From that perspective it is a sign of great confidence in many countries that recently so many high buildings have been built. The outcome of these investment decisions reveals a low assessment of the probability of a successful terrorist attack, or a great confidence in the possibilities to protect these buildings against reasonable risks.

Conclusion

Cities may experience considerable set-backs due to large disasters. It is important that optimal levels of protection are provided for cities. In particular, a regular check has to be carried out as to whether protection levels are still optimal. A main driving factor is that urban growth in terms of population, GDP and capital stock will call for increasingly strict safety measures. Another driving factor is climate change. It may well be for example that the most dynamic urban economies of the 21st century are located at disaster prone locations. Shanghai is a telling example. Finally, protection against potential terrorist attacks may be expected to remain high on the list of national and city governments.

2.3 Dynamics of the Exurban Frontier

Roger Stough, George Mason University



This article is an interpretive analysis of the evolution of urban developments at and beyond the urban periphery. We begin by summarizing in a highly encapsulated way changes in urban

spatial thinking and related events on the ground, so to speak, from the middle 20th Century, especially in the U.S. Then we trace that to the present where we examine forces that are impacting the urban reality we observe today. It is not meant to be a definitive statement but rather provocative and hopefully stimulate others to take on the tough work of systematically examining the possible impacts of the winds of change that are considered.

Much of the thinking about the city before the middle 20th Century was focused on the core dominated model. Early concepts of a multi-nuclear city arose in the late 1940s as multiple centers were being recognized to develop within cities. Other anomalies with the classical model began to emerge later as bedroom communities that had developed on and beyond the periphery around large urban areas began to grow and develop more complex functions other than just retail services and housing for workers commuting to the city center. Thus the notion of exurban entities was coined or as Joel Garreau observed; they were "edge cities". At the same time this quasi-organized spatial decentralization was occurring individual households were moving to non-urban land parcels in and beyond the periphery leading to recognition of "urban sprawl".

So why did urban development in the last half of the past century diverge in significant ways from the precepts of the core dominated theory? First and foremost was the fact that land at and beyond the periphery was relatively cheap. When coupled with improved transportation that resulted in relatively easy access to the center, people began to find and create alternative residential locations in exurbia. Additionally the American ethos as depicted by the perspective called American Exceptionalism, coined by Marty Lipset, may have contributed to these forces

having a stronger impact in the U.S. urban context than in other developed countries. American Exceptionalism argues that America is different than other countries partly because its evolution pivoted on a revolt against the King of England resulting in strong and lasting institution concepts that motivated the revolution and thus supported the primacy of the individual and weak government. These enduring legacy effects arguably define an important part of American culture. When coupled with its history as a frontier society involving settlement by individuals it is understandable that there is a persistent desire on the part of many Americans to live closer to nature than in an urban setting that is necessitated by need to be close to work options. Strong individual rights, weak government institutions, attraction to nature or the countryside may also be argued to have created a strong motivation to develop the rural and undeveloped land beyond the periphery of cities especially in the U.S. Today cities have become highly decentralized (with respect to classical theory) and sprawl far out into the countryside creating a broad pattern of new cities on the "edge" with individual residential development inter-stitching the space between.

Will the decentralized and exurban pattern on the periphery continue? Certainly the forces that led to this outcome still exist but are probably less intense today given that the relative cost differential of land in outer areas is less, despite the fact that cost of congestion may be relatively higher than in the past although this is increasing offset by in vehicle communication options that enable work to occur while "stuck in traffic". Further, environmental protection organizations have become strong over the past 50 years and have lobbied with success against "sprawl" while promoting smart growth that advocates

infilling in more interior areas. While the American ethos as described above is still strong, events such as 9/11 have resulted in some infringement upon individual rights such as privacy and freedom of speech and at the same time have strengthened the role of government.

There are yet other forces besides those discussed above that have or are emerging that to some extent counter the reduced impact of the factors that propelled decentralization and sprawling exurban development in the past. One of these is the rise in the quality of information and speed of telecommunications over the recent past. It is becoming increasingly possible as the quality of these technologies improves to eliminate at least some trip taking and face-to-face communication by substituting “bytes” for trips. As these technologies become ever more easy to use and effective, individual access to the center of cities becomes less necessary and the residential location decision becomes even more flexible. At the same time, however, certain functions including residential location are increasing locating in central parts of large urban complexes. For example, population in the U.S. National Capital Region the core, the District of Columbia, and parts of the inner suburbs have been growing rapidly in the past few years after 30 years of decline. While some of this is due to immigration most of the new residents are well-educated and relatively young people (20–35) that have grown up in the U.S. or have been educated there. This new demographic dynamic has led to a major and measureable rise in entrepreneurial activity with company formation and growth occurring at significantly increasing rates. This development is largely driven by new lean start up technologies and new ways to capitalize start-ups such as using the Internet for raising capital, e.g.,

Indiegogo, Inc. The point here is that certain functions such as creative activity require more intense social interaction to achieve effectiveness and efficiency. Entrepreneurship in a world heavily supported with information technology still requires intense interaction even when supported with IT technologies like those offered by Indiegogo. Will creative activities like entrepreneurship, live performances and entertainment, deal making, community action, and so on become so important and attractive in the future that a very large reverse flow back into more central parts of cities will occur? Probably not but we should be considering that there are benefits for younger people to be located in more complex and active settings like those provided in the central parts of cities.

The dynamics impacting exurbia are complex but are changing in various ways as outlined above. It is hoped this short statement about some of these dynamics will provoke more detailed analysis of the implied hypotheses and thus greater understanding of the spatial, social, innovation and cultural changes that seem to be evolving.

3. News and Recent Events

3.1 Arthur Getis receives the Founder's Medal



Arthur Getis received the Founder's Medal of the Regional Science Association International (RSAI) at the RSAI World Congress in Timisoara, Romania. The award is for "a senior scholar who has contributed to the field of Regional Science in an important way, and a person who has been active in RSAI over a sustained period of time." Read more about Arthur's impressive career in the Meet the Fellows section of this Newsletter.

3.2 Fellow Awards: Michael Sonis



Michael Sonis (left) received his plaque designating him as a Fellow of RSAI from Geoffrey Hewings (President, RSAI, 2001–2002) at the 2012 meeting of the Israeli Regional Science Association. Congratulations Michael.

3.3 Prof. Juan Cuadrado-Roura has been awarded a Honoris Causa PhD



The University of Jaen, Spain, has awarded Prof. Juan R. Cuadrado a 'Doctor Honoris Causa'. This is the second award of this type received by this distinguished

Professor, former President of ERSA (1995–2000) and former member of the RSAI Council too. He was one of the founders (1973) and later President of the Spanish Section of Regional Science (AEER). He is Professor of Applied Economics at the University of Alcala, Madrid and Founder-Director of the Institute of Economic and Social Analysis. He is also Director of 'Investigaciones Regionales', a scientific journal widely diffused in Spain and Latin America, which includes contributions written not only in Spanish but in English. Congratulations Juan.

3.4 Peter Nijkamp has been awarded a Honoris Causa PhD

Peter Nijkamp has received a doctorate Honoris Causa from the University of the Algarve in Faro. He got this sign of recognition for his long-standing path-breaking contributions to regional science, his active role model for young scientists and his world-wide involvement with regional development issues. Peter Nijkamp is also doctor honoris causa at the Universities of Brussel, Athens and Bucharest. Congratulations Peter.



3.5 Professor John Quigley 1942–2012



John Quigley, the I. Donald Turner Distinguished Professor of Public Policy, Business, and Economics at the University of California, Berkeley, passed away last May. He was a campus leader, an

inspirational mentor, and a leading figure in urban economics and housing policy. During his career he produced fourteen books and over 150 scholarly articles. John excelled at finding clever ways to use empirical data about housing and urban areas to answer important public policy questions such as the macro-economic impact of rising housing prices on consumption behavior, the impact of segregation on African Americans' opportunities to accumulate wealth through investment in housing, the effect of governmental and voluntary energy standards on energy efficiency and the value of buildings, and the relationship between housing markets and homelessness. He combined boundless energy with an infectious laugh, which he often followed with a sharp intellectual insight. He will be greatly missed in the regional science world.

3.6 RSAI world congress Timisoara, Romania

Congratulations to all involved with the organization of The World Congress, especially members of the West University of Timisoara, the Faculty of Economics and Business Administration, the Timis County, the Chamber of Commerce of and Industry of Timisoara, the Municipality of Timisoara, the West

Regional Agency, the Romanian Regional Science Association and the Regional Science Association International.

212 participants took part from 32 countries: many from Romania, but also 22 from Japan, 16 from Germany, 15 from Italy, 14 from the United States, 12 from Spain, and 9 from Brazil.



Daniela Constantin, successful chief organiser of the RSAI World Congress

3.7 International and national meetings in Mexico City



The Mexican Association of Science for Regional Development (AMECIDER) held a double meeting: one international and one national, between the 3rd and 6th September 2012. The general title of the international meeting was: "1st Ibero American Congress on Regional

Development: Standing in the World and Strategies”, and the title of the national meeting was : “17th Meeting on Regional Development in Mexico”. The double meeting has been considered by most participants as a success. The international meeting achieved not only the presentation of papers in parallel sessions but, very importantly indeed, a series of four plenary panels composed by highly qualified foreign and national panelists especially invited for the purpose. They came from China, Germany, Argentina, Portugal, Cuba, Spain, Chile, Colombia and Mexico. Of course in both meetings there were papers from those countries and also from participants from Bolivia, Ecuador and Costa Rica. Over 220 papers were presented and AMECIDER will publish two books with a selection of the best papers. Besides the panels and papers there were three other forums: the “4th Under-graduate Student Teams on Regional Science” – competing for the “Salvador Rodriguez Award”; the “Post-graduate institutional curricular programs of Mexican universities”; and the “Young Political Leaders of the Mexican Biggest Parties and Civil Organizations on Regional Development Programs within their Organizations”. All three aroused considerable interest and levels of participation.



A selection of delegates in Mexico (Jorge Serrano is centre stage)

The highlight of the meetings

A rather original highlight of the meetings was the launching of the “Ibero American Network of Regional Science”. The main objective is to help launch, in the medium or long run, a new RSAI super region (either Latin American or Ibero American in character to build on the success of the newly formed RSAmericas). To make progress the network has been structured by: (a) a Directive Committee having the responsibility of major decisions and formed by the representatives (15 persons) of national associations of Latin America and the Iberic countries present in the double meeting, as well as the participants from other Latin American countries wishing to work for the formation of RSAI sections in their own countries; (b) to support the work of the Directive Committee a rather small (six members) Working Commission was also created. One of the ways forward consists of a series of biannual Ibero American meetings which will be rotating among the several associations of the Network; another working-way will be the fostering of new RSAI sections in countries lacking them. Responding to Brazil’s association request (the ABER), it was decided that the next meeting will take place there in 2014 (See the Official Act of the establishment of such Ibero American Network to be published in the next RSAI Newsletter).

3.8 ERSA 2012 Bratislava

656 participants from 46 countries around the world.

The Bratislava Congress was attended by a good collection of ‘position’ and ‘specialisation’ categories embracing all age generations. As in the previous congress, PhD students were numerous and their input especially in the Young Scientists’ Sessions was very much appreciated by attendees.

The survey conducted after the congress outlined again the importance of the ERSA congress platform in enhancing and enriching networking contacts. Forthcoming congresses in Palermo (2013) and Saint Petersburg (2014) are being considered by more than 80% of the survey respondents which is good news for future participation rates.



3.9 New Editor of PIRS

The RSAI journal 'Papers in Regional Science' has a new editor. Jouke van Dijk announced recently his intention to step down as main editor. Jouke and his team have done a splendid job over many years helping to push the journal onwards in terms of volume and quality (judged by its increasing impact factor). A nomination committee was formed by RSAI Council consisting of Yoshiro Higano, Jouke van Dijk, Tomaz Dentinho, Marlon Boarnet, Dan McMillen, Manfred Fischer and Jean Claude Thill. This commission proposed Roberta Capello as the new editor-in-chief for the journal Papers in Regional Science, initially from January 2013 until December 2015. The Council unanimously approved and gave an acclamation both to Roberta Capello, the new editor-in chief of PIRS and to Jouke van Dijk for the remarkable achievements he achieved during the period he served as editor-in-chief of PIRS.



4. Shrinking cities in the New Urban World

*Sujata Shetty and Neil Reid,
University of Toledo*



The last few decades have seen a transformation in global economic organization. One of the consequences of this has been great gains for some cities and regions that have become centers for capital investment, highly skilled workers and important nodes in information networks. At the same time, other cities and regions have seen economic decline and the loss of employment and population.

In addition to these changes, however, other factors have played a part as well, often in combination. The decades-long processes of suburban development, transformations in the structure of the economy such as the long-term decline of manufacturing in some regions, falling birthrates, aging populations in some countries like Germany and Japan, the financial crisis, wars, natural disasters, and particularly in Europe, political change, have all been suggested as causes for population loss in cities and regions across the world. Cities whose economic foundation was a single industry have been particularly hard hit. Mining cities in Australia, Canada, Mexico and Korea, for example, have received some recent attention. Most of the focus, however, has been on cities that have had a history of manufacturing,

many of these located in the old industrial regions of Europe and the U.S. midwest. In the U.S., large centers of manufacturing such as Buffalo, Pittsburgh, Cleveland, and Detroit are prominent examples of shrinking cities. Smaller manufacturing cities like Flint, Akron and Youngstown have not been spared either.

These so-called shrinking cities present a complex new set of urban futures different from those shaped by economic and population growth, but no less challenging (see Note). For example, these cities are found all over the globe – they are not unique to North America or Europe. As a result, the contexts (social, political, economic, etc.), in which these cities are losing residents varies widely. Another dimension of complexity is visible in the way shrinkage plays out over the landscape – the pattern of growth and shrinkage is always uneven. For example, the conventional understanding of shrinkage in U.S. cities has been related to suburbanization and urban sprawl leading to a doughnut effect comprising an emptying-out core surrounded by growing suburbs. However, we understand now that the pattern is often more complex with growing and shrinking neighborhoods within a city, often abutting each other. Inner-ring suburbs have not been immune to shrinkage either. This diversity in shrinking cities is just the tip of the iceberg.

All this presents a challenge to geographers, regional scientists, urban planners, urban designers and others interested in the future of cities. For some time now, these disciplines have focused on the growth of urban areas and increasing complexity associated with this growth. For example, in their work on new urban futures in Europe, Nijkamp and Kourtit (2012) point to the fact that there is no economic theory that suggests a natural limit to city size:

“It is plausible to argue that cities will continue to gain importance – in size and numbers – as long as the agglomeration benefits supersede the shadow sides of agglomerations” (Nijkamp and Kourtit, forthcoming: 3). Similarly, urban planners have tended to focus, historically, on the challenges of cities with growing economies, populations and geographic expanse, and have been slow to acknowledge shrinkage (Pallagst et al., 2009).

Planning a new urban future for a shrinking city

There have been some cities, however, that have begun plan for a future with fewer residents. Among the more high-profile of these attempts in the U.S. are Youngstown and Detroit. These two cities differ in some ways. The Youngstown 2010 plan, which incorporated a vision of, and strategies for a smaller, greener city was completed in 2005 and widely lauded, while the Detroit Works Project, which also aims to plan for a city that has fewer residents in the future, is currently underway. Detroit is much larger in area and population.

Table 1: Population trends, Detroit and Youngstown

Year	Detroit	Youngstown
1950 (peak)	1.85 million	168,000
1960	1.67 million	167,000
1970	1.51 million	140,000
1980	1.20 million	115,000
1990	1.02 million	96,000
2000	951,000	82,000
2010	714,000	67,000

Source: U.S. Census

The two cities also share similarities. Both have seen dramatic population decline over the last sixty years (see Table 1). Based on 2010 census numbers, both show an approximately 60% decline from their peaks. Both cities’ economies were tied to the fortunes of a single industry, auto for

Detroit and steel for Youngstown and both have political leaders who seem committed to planning for the challenges of shrinking cities. What follows are highlights of these two cities' planning processes that acknowledge the fact of a smaller city. In 2010, the Detroit's mayor began an initiative called the Detroit Works Project "to create a blueprint that redefines the physical, social, and economic landscape of the city," (Detroit Works Project). One of the first steps to engage the public was a series of public meetings held in the autumn of 2010. The meetings were extremely well-attended, with crowds far exceeding what planners had expected. The meetings were also contentious. Many came to voice their opposition to the mayor's announcement that the program would provide incentives for residents to move out of disinvested neighborhoods to other, more stable parts of the city. Many others came to complain about inadequate city services, and it was clear that the process had to be re-tooled. The project was then split into two – short-term planning and long-term planning. The former was to focus on pilot projects, mostly to do with service delivery, and limited to a few neighborhoods. The latter was to develop a plan for the future of Detroit. Community engagement was an important part of the entire process, and according to planners, as of May 2012, over 9,000 people had had a conversation, interaction or provided written feedback.

The strategies in the long-term plan, to be completed in the autumn of 2012, will be organized into five categories: economic growth; neighborhoods; public land and facilities; infrastructure and environment; and land use, zoning and urban design. The first draft of these strategies was unveiled to the public in September 2012.

While Detroit is at the very beginning of the process, Youngstown's plan is

well-established and widely known. Completed in 2002, the Youngstown 2010 plan incorporated a vision of and strategies for a smaller, greener city. Over a three year period, over 5,000 residents participated in various stages of the planning process, including a vision for the future of the city that was developed over a dozen workshops involving over 200 members of the community. The vision had four 'platforms', (City of Youngstown, 2005). First, accepting that Youngstown is a smaller city, making the link between the decline of the steel industry, the loss of thousands of jobs and steep population decline, and consequently, abandoned and under-utilized sites. Second, defining Youngstown's role in a new regional economy, aligning the city's economy with the regional economy. Third, improving Youngstown's image and enhancing quality of life, making Youngstown a healthier and better place to live and work. And, finally, a call to action, developing a detailed, practical, action-oriented plan to successfully compete for scarce public funds and leverage opportunities wherever possible.

We have analyzed the Youngstown plan in relation to Nijkamp and Kourtit's (2012) framework in detail elsewhere (Shetty and Reid, under review). What we would like to highlight here is that for a number of cities across the world like Detroit and Youngstown, the future holds not growth, but shrinkage. Recognizing the shared characteristics of these shrinking cities, their prevalence particularly in Europe and the U.S., the severity of their challenges, and the new planning paradigms that they are developing right now to deal with this reality, we suggest that as urban scholars our collective conception of a new urban research agenda should be expanded to include such cities.

Note: We use the Shrinking Cities International Research Network's

definition of a shrinking city: a densely populated urban area with at least 10,000 residents that has faced population losses in large parts for more than two years and is undergoing economic transformation with some symptoms of a structural crisis (Wiechmann, 2008).

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5. Centre of Regional Science: The Athens Regional Development Institute

Yannis Psycharis and Antonis Rovolis



The Athens Regional Development Institute is the most longstanding educational and research body for Regional Development in Greece. Established in 1975, it was the first in the country to offer a graduate course in Regional Development, carrying out research and consulting on regional development for the public sector, local government and private enterprises. Throughout its lifetime it has been involved in many European projects, has published books and yearbooks and has organised conferences, seminars and has brought together various experts in a series of meetings. Affiliated to the Department of Economic and Regional Development of the Panteion University of Social and Political Sciences (Athens), it operates under the form of a private, non-profit legal entity and is housed in privately-owned premises (Syngrou Ave. 130, Athens).

Education

The Athens Regional Development Institute was established in 1975 and it was the first academic institution to offer a graduate course in regional development. During its operation, the Institute has educated more than 500 graduate students. Inspired by the principles of Regional Science, its interdisciplinary two-year programme encompasses a broad spectrum of disciplines and syllabuses, including economics, geography, engineering, urban and regional planning, political science and demography, thus facilitating dialogue and collaboration among different disciplines for the development of spatial analysis. With career trajectories in academia and in high-rank positions in the public sector as well as in the private sector, the graduates of the Institute are considered among the most influential people in regional and urban economic development in Greece.

Research

Research and consultancy were always integral parts of the Institutes' operation. Throughout its long tradition in research, it has been involved in a large number of projects and studies delivered to the Greek Government, the European Commission and other research institutions, as well as local authorities and socioeconomic agencies.

European projects include NOW, a programme for youth volunteering, SHARE (A Survey of Health, Ageing and Retirement), INTERREG IIB Damage Medoc, on issues of natural disasters, EQUAL, on providing equal opportunities for women in the labour market, and ESPON on land-use planning. Scientific supervision and coordination was offered for the RITTS programmes in the Regions of Thessaly and the North Aegean, as well as for the innovative actions programmes RIS, RIS plus and RISE in the Region of Sterea Ellada.

The involvement of the Institute as an external expert in the formulation of the Community Support Frameworks (CSF) of Greece is of major importance. Delivered by the Ministry of National Economy, it has undertaken the responsibility for the formulation of the 3rd CSF Regional Programmes. It has also contributed to the formulation of the National Strategy for special interest areas like mountainous and insular regions. In addition, it has completed Strategic Development Studies for the Programming Period 2007–2013 and has participated in the evaluation of CSF Operational Programmes.

Works in progress include the 'Regional dimension of economic crisis in Greece' and 'Regional planning studies' for four out of thirteen regions across the country.

International Co-operations and exchange program

The RDI has developed a regular scheme of cooperation with European

Universities, Research Centres, Scientific Organisations and Institutions on an international level, for the undertaking of studies, organisation of networks, briefing for conferences and publications. It has also expanded its activities in the neighbouring Balkan countries, participating in research projects with local partners. It has additionally undertaken projects in Cyprus.

The Institute provides a scheme for exchange visits by fellow scholars from related Institutes throughout the world. The aim of this programme is to provide a means for fellow scholars to exchange knowledge, experience and thoughts, and to develop mutually beneficial collaboration. In the ambit of this programme, the Institute has invited many academics, professionals and researchers to give lectures and to interact with the staff and students.

Conferences and seminars

The active organisation of congresses, conferences, forums and other scientific meetings on issues of national and international interest is one of the Institute's main activities, since they contribute to a greater dissemination of information on current problems facing the development process in the field. In effect, it has hosted a great number of scientific meetings, conferences and meetings, covering a wide range of themes in urban, regional and local development.

It has been the host institution for the majority of annual conferences of the Greek section of the Regional Science Association International (among others, the meetings of 2003, 2005, 2008, 2010). It has also organised the ERSA Summer Schools and workshops (Rhodes 1988, Nafplion 1992, Hydra 1995). One of the most important scientific events organised by the RDI was the Annual Congress of the European Regional Science Association,

which took place in 1987 in Athens. With more than 400 papers and more than 500 delegates from across Europe, Asia and America, this conference turned out to be the largest regional science event ever organised in the country at that time. The RDI was also responsible for the distribution of the Conference Proceedings.

Publications

The Regional Development Institute, in an effort to increase awareness in Greece regarding Regional Science and the related bibliography, is active in the field of publishing, with regular and special editions. Publications include textbooks, conference and seminars proceedings, research monographs, volumes in honour of distinguished professors and the yearbooks. In addition, the RDI's research associates publish widely in issues of Economics and Regional Science.



Library at the regional Development institute

Infrastructure

The Institute is located in a privately-owned building located at 130 Syngrou Avenue, in Athens (Greece). It occupies the first and the ground floors of the building. Its facilities comprise modern lecture rooms, seminar rooms, a library and a databank.

The RDI hosts a complete scientific library, supported by a modern

computerised filing system. With over 2,000 volumes of scientific interest and a series of Greek and international journals, the RDI's library resources support Urban and Regional Development postgraduate needs and the research interests of Ph.D. candidates, professors and the Institute's academic and research staff. One of the library's main tasks is to continually monitor the international bibliography and regularly update, replenish and renew its collection of specialised books, reports, journals and periodicals.

On the ground floor of the building the RDI's lecture theatre is situated, with seating for 100 people; the lecture theatre is used for meetings, conventions and conferences. It is equipped with a simultaneous translation system, projection systems, a special conference room and a cafeteria.

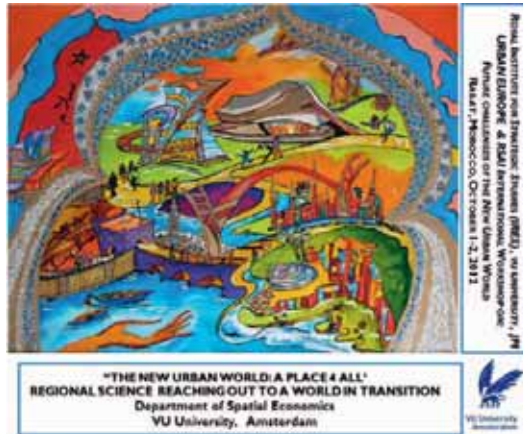
The primary task of the Informatics and GIS Laboratory is the utilisation of information technology in the operation and activities of the Regional Development Institute. One of the main activities of the Laboratory relates to the design, development and maintenance of the Integrated Statistical and Spatial Database Information System, which combines a powerful database management system with the graphical representation facilities provided by GIS. The RDI Database covers all basic categories of statistical and regional data including demographics, employment data, entrepreneurship data, infrastructure and investments data, education and health services.

The RDI is administrated by a five-member Board of Directors. Currently, Prof. Ath. Papadaskalopoulos is serving as the Director; ex-Directors include Prof. Pintos, the founder of the Institute, and Prof. N. Konsolas.



6. The Urban Futures Brainshaker

Peter Nijkamp, Mark Partridge,
Karima Kourtit and Daniel Arribas



To support further thinking on long-term strategic urban research issues it was decided to engage the RSAI fellows (some 60 scholars in total) because they may be expected to play a leadership role in the design of novel, future-oriented research issues and plans. To that end, a concise, challenging survey questionnaire – comprising 10 compact issues/statements to be responded to – was circulated among all fellows. This questionnaire – coined ‘BRAINSHAKER’ – only achieved a modestly successful response rate (33%). Yet, the answers received were sufficiently interesting to be further analyzed. On top of it, each fellow was also invited to make a single compact statement highlighting her/his view on the urban future in relation to regional science. The responses to both items is provided in the remaining part of our contribution, while we present at the end in a very succinct form our findings from a Self-Organized Map (SOM) analysis, as well as the ‘winning statement’ which was chosen during a democratic poll at the World Conference of the RSAI in Timisoara.

Empirical Findings from the ‘BRAINSHAKER’

By means of a RSAI Fellows’ ‘BRAINSHAKER’, a simple survey questionnaire consisting of 10 extreme statements – not necessarily true, but to be scientifically defensible – was organized. The issues in this ‘BRAINSHAKER’ focused on a future-oriented research agenda as part of a broader scientific reflection on ‘The New Urban World’ (Nijkamp and Kourtit, 2012) and its consequences for regional science (See Table 1).

In Figure 1, the RSAI fellows’ results show that the strongest median answers with ‘Yes, I do agree’ are on S3, S4 and S9 (with a modest (3) preference intensity), where the strongest median answer with NO, I do not agree’ is on S10 (with a strong (4) preference intensity). In more detail, the highest average ‘Yes, I do agree’ score with the strongest preference expression are on statements S9 (81%) and S4 (81%), followed by statement S3 (67%), where as the highest average ‘No, I do not agree’ score with the strongest preference expression is on statement S10 (86%), followed by statements S6 (67%) and S7 (62%). Apparently, ‘Regional Science’ has received a positive image as a brand name that should not be replaced by another name.

Table 1. The RSAI Fellows' *'BRAINSHAKER'*

STATEMENTS	
Our century is increasingly becoming an urbanized world, with more than half of the world population currently already living in urbanized areas. <i>Our century should therefore, be called 'the urban century'.</i>	(S1)
Several scholars argue that there is no natural long-term limit to urbanization. <i>City size has no limits in the future.</i>	(S2)
ICT may have both centripetal and centrifugal impacts on urbanization. <i>The long-range impact of ICT on urban growth is positive.</i>	(S3)
Urban agglomerations – including mega-cities – may show a great variety of different spatial forms in the future. <i>The most likely agglomeration model in the future is a polycentric urban development.</i>	(S4)
Urban agglomerations generate environmental externalities (both positive and negative) of all kind. <i>The net effect of rising urban agglomerations on long-term ecological sustainability is positive.</i>	(S5)
Large-scale urban agglomerations may create social stress, alienation and social inequality. <i>Urban agglomeration is the best way to reduce these social inequalities.</i>	(S6)
Many rural areas show a decline and lack of economic prospects. <i>The economic future of rural areas in an urbanized world is problematic.</i>	(S7)
Urban agglomerations tend to become nodes of global spatial networks. <i>Isolated agglomerations have no economic perspective in global urban networks.</i>	(S8)
The administrative and governance competences of world cities or urban areas are ineffective and outdated in the light of the above mentioned global agglomeration forces. <i>A radically different governance structure for urban agglomerations is needed in the future.</i>	(S9)
Regional science was established as a multidisciplinary science focusing on the development of regions. <i>The 'urban century' makes it necessary to change the term 'Regional Science' into 'Urban Science'.</i>	(S10)

The RSAI Fellows could reply to each of the statements **S1-S10** from Table 1 by a binary answer: '1 = Yes, I do agree' or '0 = No, I do not agree' with the given statements. To assess the degree of intensity of various preference statements, a rank order ranging from '1 = weak' to '5 = very strong', on a 5-point Likert scale, was also used. Next, by adding up all these scores, it was possible to synthesis all scores to determine the strongest and weakest agreement for all 10 statements (see Figure 1).

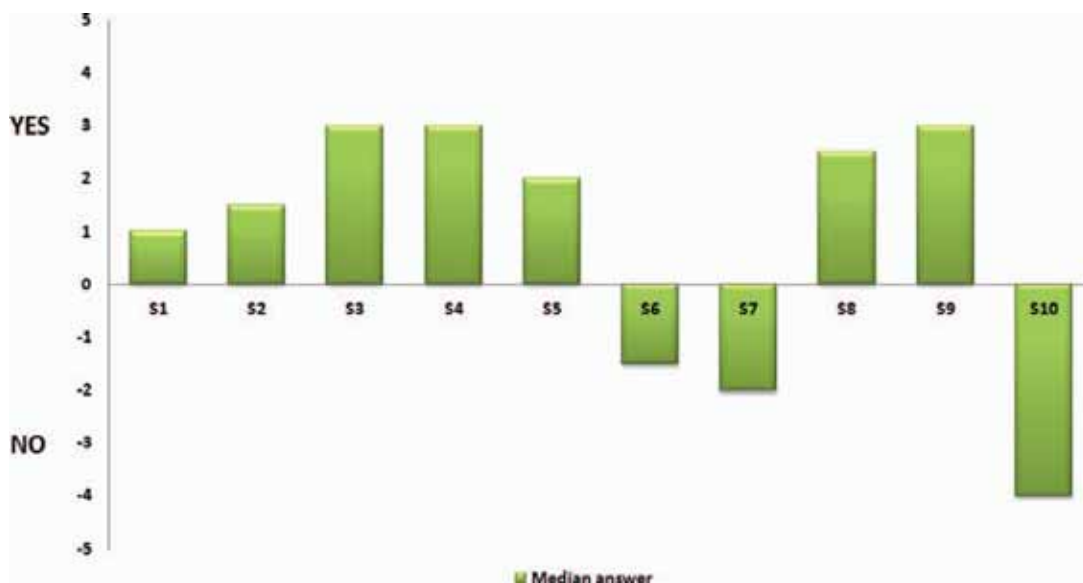


Figure 1. Median answer to binary (0–1) of preference statements by RSAI fellows

Table 2. The distribution of RSAI fellows' strength of the opinions

Intensity of opinion of fellows from different locations	Degree of (positive) agreement of fellows from different locations
Amsterdam	Tokyo
Illinois	Illinois
UK	Amsterdam
Washington	UK
Arizona	Washington
Boston	Queensland
Groningen	Arizona
Washington	Boston
Arizona	Pennsylvania
Texas	Arizona
Illinois	Amsterdam
Geneva	Amsterdam
Tokyo	Groningen
California	Illinois
UK	Geneva
Pennsylvania	UK
Queensland	Washington
Amsterdam	Groningen
Amsterdam	Texas
Groningen	California

Table 3 flips the analysis around and switches the focus from people to the questions S1-S10 asked to the RSAI fellows. The approach is similar to the previous one though. The first column shows the ranking of questions ordered from those which have received the strongest opinions to the mildest ones. The second column mirrors the second column of Table 2 in that it portrays the ranking of positively answered questions, starting from those which have received the largest degree of agreement to those that RSAI fellows felt not to be correct. These results confirm the conclusion from Table 2.

Table 3. The ranking of questions

Strong agreement (positive or negative) on a given question	Strong positive agreement on a given question
Q. 10	Q. 9
Q. 2	Q. 4
Q. 7	Q. 3
Q. 4	Q. 5
Q. 5	Q. 2
Q. 8	Q. 1
Q. 9	Q. 8
Q. 1	Q. 7
Q. 3	Q. 6
Q. 6	Q. 10

Winning statement

The RSAI fellows were also invited to substantiate their choice for a given statement from the 'BRAINSHAKER' by providing a concise 'citation' (max. 20 words), supporting their choice for any of the answers given in the RSAI Fellows' 'BRAINSHAKER'. After an opinion poll at the Timisoara World Conference, one citation was selected as the winner, viz. 'Urbanisation is a major, especially economic force, but not all of its consequences will be beneficial without some kinds of intervention', by Alan Wilson (UCL, UK). Congratulations!



7. Meet the fellows: Arthur Getis

Place and Time: The Right Place at the Right Time



While I was an M.S. student at Penn State in 1956, I saw a booklet published by the Association of American Geographers which gave the

names of dissertations written by students in U.S. and Canadian university Ph.D. programs. Just a few departments caught my attention as places where my interests might lie. Allan Rodgers, a professor at Penn State and an inspiring teacher, encouraged me to seek a challenging research environment. After spending five years at Penn State happily working on bachelor's and master's degrees, I decided on the University of Washington. At Washington, my fellow grad students included Brian Berry, John Nystuen, Bill Bunge, Michael Dacey, Waldo Tobler, Richard Morrill, and Duane Marble. My professors were William Garrison, Edward Ullman, Arnold Zellner, Morgan Thomas, and Marion Marts. What a group! No need to seek stimulation – it was there every day. Important questions having to do with central place theory, city growth, transportation, trade, and retail location were argued and discussed. Donald Hudson, the chair at UW, opened the xerox copier room to grad students so that they could circulate their ideas. The environment was electric. Garrison, in his gentle way, ruled over this surfeit of intellectual curiosity. The underlying theme was that geography, as a discipline, was moribund, simple-minded, and useless, and if it was to survive as an

intellectually respectable field it would have to become scientific. We spouted theories, tested hypotheses, copied techniques from the quantitative economists and, in general, set out to remake the discipline. Of course, there was resistance, not only at Washington, but among the field's leadership at such places as the Universities of Wisconsin and Syracuse. This only increased our resolve, but unfortunately, some of the main journals rejected our papers on the grounds that they were too quantitative. When the University of Chicago's department hired Brian Berry, it was like the breakthrough that opened the door to others of the Washingtonians. Before long, Northwestern, Michigan, Michigan State, and Pennsylvania, where Walter Isard was laying the groundwork for the new field of regional science, had young Washington Ph.D.s on their faculties.

Fortunately for me, I met my wife to be, Judy Marckwardt, at Washington. As an undergrad at the University of Michigan she had asked John Nystuen, who was a faculty member at UM, where she might do graduate work. He enthusiastically described Washington to her. She specialized in cartography under the tutelage of Professor John Sherman, a well-known cartographer sympathetic to the Garrison-led school. Instead of taking an NDEA fellowship to Princeton to study historical cartography, she decided to go with me. We were married in Ann Arbor, her hometown, where her father was an exceptional scholar in the English/Germanic languages and literature. I mention this simply because our household, inspired by Al Marckwardt at Michigan, for us first at Michigan State then at Rutgers became an academic cauldron where Judy and eventually our three children spent most of their time devoted to their studies. Judy was employed by Educational Testing Service of Princeton and eventually our girls became students at the University of Illinois'

experimental school, Uni High. Hilary, my oldest child, while a high school student in Illinois, became a Presidential scholar.

While I was at Michigan State, Bill Bunge at Wayne State, Waldo Tobler and John Nystuen at Michigan, and Don Blome and I formed what we called the Michigan Inter-university Consortium for Mathematical Geography (MICMAG). John developed a working paper series that added to and continued similar types of series established at Washington, Northwestern, Iowa, and Ohio State. In this atmosphere, deepening knowledge of Christaller, Lössch, Isard's regional science, and the new ideas emanating from Harold McCarty's Iowa school were discussed.

Michael Dacey managed to have influential quantitative papers published in the journals of *Economic Geography* and the *Annals of the AAG*, finally establishing quantitative geography as a mainstream sub-discipline of geography. Together with others, I taught modeling and probability theory at Northwestern University Summer Institutes. Our students were mainly faculty from around the country and world who wanted to learn of the new techniques in geography.

The revolutionary spirit felt strongly by the Washingtonians had spread to England. Peter Haggett, a Cambridge Ph.D. and a friend of Brian Berry, was hired at Bristol University, where I visited in 1966–67. He, with Richard Chorley of Cambridge, became the “terrible twins” of the new geography in Britain. Among the new geography “scientists” at Bristol were David Harvey, Michael Chisholm, Allan Frey, Barry Garner, Andrew Cliff, Roger Downs, and Barry Boots. A young Ph.D. from the London School of Economics, Keith Ord, had just arrived at Bristol in the economics department. Originally from the same town in Yorkshire as was Andy Cliff, these two

got together to work on something called “spatial autocorrelation.” Although one result of their work was the creation of a new spatial autocorrelation statistic, they named it not after themselves (which I think they should have) but for the statistician who laid the groundwork for it, P.A.P. Moran. They developed the rationale for the statistic, created the formulation for its variance, recognized its nuanced difference when used for testing residuals from regression, and published all of this in a Pion monograph in 1973 to be expanded into a full volume with examples in 1981.

During these years I joined the young quantifiers testing central place theory, creating point pattern analytic routines, and trying to instill in my students a love for the analytic side of geography. Some of this work was with Barry Boots who, after Les Curry died and Yorgos Papageorgiou retired, went on to become the leading quantitative geographer in Canada. Barry and I had a book on pattern analysis published by Cambridge University Press. As a graduate committee member in those early years, I advised, among others, Boots, Kingsley Haynes, Marc Armstrong, and Peter Muller.

Judy and I realized that to finish the formal education of our children we would have to enhance my salary. We wrote a textbook (with Jerome D. Fellmann, a colleague at Illinois) called *Introduction to Geography*, which is now in its 13th edition. We were then able to send our daughters to the colleges they adored: Hilary to Harvard, Vicky to Oberlin, and Annie to UC Santa Barbara.

In the 1980s, except for the influence of the new technologies used in GIS, geography began to return to its original non-scientific state. Many of the early geography quantifiers felt the decline of scientific geography and sought the stimulation emanating from the field of

regional science. I spent the Spring Semester of 1970 with Walter Isard at his Regional Research Institute at Harvard. I found the meetings of the Regional Science Association exciting and stimulating. One day, after many tries at developing the variances for something that became local statistics, I got in touch with Keith Ord and asked if he might want to give it a go. At that time, in the 1980s, Keith had left England for a position at Penn State. We developed a smooth working relationship. He was able to come up with the required proofs. I was then at the University of Illinois with Geoff Hewings and a host of other outstanding scholars. Keith and I developed something called the Getis-Ord G statistics which we published in *Geographical Analysis*. Soon after, Luc Anselin, took the global statistics, Moran's I and Geary's c, and created a family of local spatial autocorrelation statistics called LISA (Local Indicators of Spatial Association). These events, the creation of G statistics and LISA, triggered new research on the local characteristics of a myriad of georeferenced variables. But, perhaps most significantly, these statistics became an arm of spatial modeling, pattern analysis, and the all-important tests needed for residuals from regressions of various kinds. They have given rise to cluster determination, spatial filtering, and tests on many aspects of spatial autoregressive models.



In the mid-1980s, I took a sabbatical from Illinois to UC Santa Barbara, mainly to interact with Waldo Tobler. Fortunately for me, Luc Anselin had recently arrived in the geography department there

from Ohio State's urban planning department. Luc's work with spatial autocorrelation further stimulated me. Luc was finishing for publication his book *Spatial Econometrics: Methods and Models*. I had a chance to review it. The book easily can be used as a text on spatial modeling. It has gone on to become the most heavily cited book in the field of spatial econometrics, and it motivated me to consider the structure of spatial weights matrices and a host of other spatial concepts.

Unknown to me in the late 1980s was that San Diego State University had applied for a Ph.D. program in geography that would emphasize the scientific aspects of the field. Rules of separation between the University of California (UC) and the California State Universities (SDSU is a member of CSU), required SDSU to seek a cooperating program in the UC system. Ernst Griffin, chair at SDSU, asked UCSB to be their partner in the development of a joint Ph.D. program. David Simonett at UCSB agreed. I left Illinois to take on the directorship of that program. It seems that my association with both UCSB and a one semester visiting professorship at SDSU helped make the spatial transition relatively easy. Not long after, in the early nineties, I moved into the Stephen and Mary Birch Endowed Chair of Geographical Studies at SDSU, and Douglas Stow took over the directorship of the program. It was at that time, in the early 1990s, that the Getis-Ord statistic was published in *Geographical Analysis*. In the meantime, I worked on the concept of spatial filtering using both G statistics and the notion that with georeferenced data it was possible in a variable to separate that which was due to spatial autocorrelation from that which is not due to spatial autocorrelation. This notion was called spatial filtering. In addition, Keith and I continued our collaboration developing an O statistic

that tested for local spatial autocorrelation in the face of global spatial autocorrelation and more recently we have created an H statistic that tests for spatial heteroscedasticity.

Throughout the 1990s I became deeply involved in the adaptation of GIS for spatial analysis. My Ph.D. student, Lauren Scott, now of ESRI, has done much to popularize spatial statistics in ESRI analytical products. Another one of my Ph.D. students, Jared Aldstadt and I worked on using the concept of spatial autocorrelation to find spatial clusters. We arrived at something called AMOEBA (*A Multi- Directional Optimum Ecotope-based Algorithm*) which efficiently finds statistically significant, irregularly-shaped clusters in mapped patterns of independent and dependent variables. Concomitantly, in the early 1990s, under the leadership of Manfred Fischer of Vienna, three us, Manfred, Bill Williams of Oxford and I launched a new journal, *Geographical Systems* (which later became the *Journal of Geographical Systems*). The journal emphasizes theoretical and empirical contributions to spatial analysis. It remains a strong, high-level journal nearly 20 years after its birth.

It finally struck me that if this work were to be situated in applied fields I would have to become involved with groups studying such things as the spatial distributions of crime and disease. At first I worked in crime analysis and then when Amy Morrison, an epidemiologist now at UC Davis, got in touch with me, my focus became infectious diseases, and in particular dengue fever. This work took me to Puerto Rico, Peru, and Thailand. Much of our statistical work is aimed at finding ways to control the spread of the disease. My role has been to identify any statistically significant spatial patterns of disease transmission. This work continues but has been expanded to the study of the

environmental factors responsible for varying levels of women's health in Accra, Ghana.

Throughout my academic life, I took every opportunity to spread the word of the importance of spatial analysis. Among other venues in which I instructed were summer institutes. For a number of years in the early 2000s, I worked with Mike Goodchild and Don



Janelle teaching graduate students and faculty from around the world about spatial analysis. I note with pleasure that many of these young scholars have gone on to become fine faculty members in

prestigious institutions.

Along the way, I had come to a number of crossroads. Especially when I found questions difficult to answer, I asked myself: Should I continue in this field of spatial analysis or seek administrative responsibilities or work in less challenging occupations? At Illinois, I gave the administrative route a try only to become frustrated with the politics of the university. My colleagues in regional science made it easy for me to come "home." Fortunately for me because I happened to be in the right place at the right time, the challenges of spatial analysis became for me what may be called routine activity, activity that promoted intellectual stimulation and curiosity and brought me into contact with truly outstanding scholars and practitioners.



8. Next Issue: 'Teaching Regional Science'

The editors would be keen to receive articles or ideas about the theme

'Teaching Regional Science' for the next newsletter. Please contact Graham Clarke (G.P.Clarke@leeds.ac.uk) or Eveline van Leeuwen (E.s.van.Leeuwen@vu.nl) directly.



