The Review of Regional Studies 2001, 31(2), 111-120

PRESIDENTIAL ADDRESS

The Landscapes of Liberty

*John Rees**

I. INTRODUCTION

There seem to be two main types of presidential addresses by academics. One type focuses on the person's view of the status of his or her discipline, which I label an *epistemological opinion*. The second type focuses more on the individual's research interests in the places where his or her science has evolved: an *experiential opinion*.

An excellent example of the former is Andy Isserman's (1993) presidential address to SRSA on the history and status of regional science. Along with the paper by Bailly and Coffey, *Regional Science in Crisis* (1994), Isserman got more than thirty scholars to reflect on the status of regional science in two volumes of the *International Regional Science Review*. I made my views known on this epistemological debate in the papers of RSAI (1999) and will not develop these here. I will reiterate that I see a plethora of opportunities for regional science in the future.

I have chosen a more experiential approach for today's address, influenced by philosopher Michael Polanyi's powerful book, *Personal Knowledge* (1958), Herbert Simon's splendid autobiography, *Models of My Life* (1996), and by our own Bill Schaffer's 1996 presidential address at the North American meetings of our parent group, the Regional Science Association International (Schaffer 1997). When an economist talks about love and moves his audience, you know that regional scientists are made of the right stuff! Bill talked passionately about our love for the discipline and reminds us again why we gather together annually.

Regional science is personal to each one of us, the result of a personal journey that evolves in a Schumpeterian mode of destruction and creation. As intellectuals in our research, we try to stand on the shoulders of others by critically examining received work and trying to improve upon it, resulting in academic cycles of destruction and creation.

II. A PERSONAL REGIONAL SCIENCE

My own form of regional science, anchored in my home discipline of economic geography, has been concerned with one major goal: understanding the complex relationships between technological change and regional development. While I will elaborate on this later, this also explains my title today: *The Landscapes of Liberty*. The landscapes of liberty are what we all deal with. As regional scientists we analyze the landscapes created mostly by western liberal democracy.

*Department of Geography, University of North Carolina at Greensboro. Presented as the Presidential Address at the 40th Annual Meeting of the Southern Regional Science Association, Austin, TX, April 2001.

I accept Frank Fukuyama's splendid treatise on the *End of History* (1992) and see a deterministic linkage among individual liberty, democracy, economic evolution, market-based capitalism, and quality of life. I see technology as a liberating force for democracy and capitalism, an enabling force that has taken the form of electricity, telephones, automobiles, semiconductors, petrochemicals (thank you, Texas), and information. And one of the most important of these technologies is the Internet that we surf each day. Many agree that Tianamen Square would have been much worse if it were not for the fax, CNN, and the Internet.

My own form of regional science, as well as my views on technology and liberty, is also anchored in my personal experience as an immigrant. I am an immigrant, therefore I am America: I stretch from sea to shining sea. I am even accepted in parts of the New South! So liberty is an important concept for me, going back to my undergraduate days in Wales when I first thought about one of my heroes: Thomas Jefferson and his dream for America stated in those immortal words:...life, liberty, and the pursuit of happiness. One of my British colleagues chided me that liberty is an American concept. Not really. Even the new Assembly for Wales is another experiment with liberty and democracy.

Over the years I have fallen in love with two countries, Wales and America, and three regions where I have had the privilege of living, Wales, Texas, and North Carolina. We all have our special places. Wales is a special place for me because that is where my journey began, and I now realize how fortunate I am to be grounded in the time-honored values of the Welsh culture: faith, family, trust, and truth, in a rural grandeur. When I read that many of us in the West are now Bowling Alone and that we have a declining base of social capital, I see the need to rejuvenate those values so deeply anchored in the granite of the Welsh hills.

The following is part of a poem is by R. Williams Parry that eulogizes Hedd Wyn, a young poet who died in Flanders Field during World War I just before he was to receive the Bardic Chair as the best poet in Wales. (A loose translation follows.)

> Tawsfynydd, tros ei feini - trafaeliaist
> Ar foelydd Eryri:
> Troedio wnest ei rhedyn hi,
> Hunaist ymhell ohoni
>
> Trawsfynydd, over your hills
> I traveled to the mountains of Snowdonia
> I walked across your gentle heather
> I perished in a foreign field
> (and my words) that will be forever Wales

In Wales I learned some of the most important words of my life—Y gwir yn erbyn y byd—The truth against the world. These are important words for those of us academics who get involved in public policy, where we should always Speak Truth to Power.

The Welsh culture has always valued education as a liberating force, as the road to a better life, even if it meant the sacrifice of Wales' own sons and daughters. The words of Neil Kinnock come rushing back (and I paraphrase):

> Why am I the first Rees in a thousand generations to go to university?...
> Because my parents and grandparents were stupid?
> Because they were never given a chance.

It is no accident, then, that I feel at home in North Carolina with its Celtic heritage, where the mountains eventually flow down to the sea, and the valleys are green. It is no accident that the first student to enroll in the University of North Carolina in 1795 was a young man named Hinton James, who walked from the Welsh tract north of Wilmington, NC, over a hundred miles to the seat of learning in Chapel Hill.

An education in Wales usually meant going into teaching, preaching, or the civil service. (And I suppose that I ended up doing a bit of each). But the private sector was hardly ever mentioned as a way of improving the quality of life. The term "entrepreneur" was never, ever mentioned, as if it were a foreign term, even a French one. *This ancient land had specialized in the production of culture, not in the culture of production.* Though South Wales became an important location in the Industrial Revolution, control was in the hands of the English, and a long-lasting branch plant economy was born that still stands today.

My curiosity brought me to America, first as an impressionable graduate student, and again as a faculty member. Since culture shock can take a while, it was not until I moved to Texas in 1975 that I began to understand the real importance of liberty. In Dallas I became enamored with its openness and friendliness, its passion for hard work and individual achievement, its passion for the entrepreneur and a raw form of capitalism. In this great state I was lucky enough to meet some of the more important people in my academic life and regional science: Bud Weinstein, Pat Norton, Jack Sommer, Kingsley Haynes, and Niles Hansen.

I found myself part of a powerful, evolving landscape of economic liberty that was an important laboratory for many of us (see Rees and Weinstein 1983). The University of Texas at Dallas had been founded by the same three entrepreneurs who created Texas Instruments, an oil company that also evolved in a Schumpeterian manner into one of America's most successful producers of electronic components. The integrated circuit was invented at Texas Instruments, and it became the *industrie motrice*, the anchor, for what has now evolved into Telecom Corridor, one of America's most creative regions. In both Texas and North Carolina I have become surrounded by the type of new technology that still fascinates me in its impact on people and places.

Because of the continued interest in regional science with issues of technology and regional development, I would like to reflect a little longer on the evolution of research on this topic.

III. TECHNOLOGY AND REGIONAL DEVELOPMENT: A LIBERATING RESEARCH TRAJECTORY

As I review the regional science literature over the past 25 years, I do not see much that deters from my original view in the mid-1970s that technology, as a primary determinant of productivity, is perhaps the most important motor of regional economic growth. In 1975, Morgan Thomas, another Welsh-American regional scientist, reminded us that technological change was still within the terra incognita of regional development. By today, many analysts agree that the theoretical trigger to the ensuing debates over the role of technological change (I am glad to say) was product cycle theory initially developed by Raymond Vernon (1966) and introduced into the regional literature by Pat Norton and myself in 1979 (Norton and Rees 1979), about the same time as Rod Erickson and Tom Leinbach (1979) did so in a rural context. Since I was involved in the early development of this research area, what you are getting here is a pure, unbiased commentary on the implications of that research!

Product cycle theory is now familiar to most students of regional development (see Norton and Rees 1979; Rees 1979, 1986; Erickson and Leinbach 1979), and I will not dwell on it in detail. I do not have to remind you that all commentators did not agree with this interpretation of regional development (see Taylor 1986, Storper 1997). A major implication of the geographical dimensions to the product cycle model that Pat Norton and I developed relates to the way in which regions can change their roles over time. I will use one quote from 1979. "Regions can change their roles from being the recipients of innovation via branch plants to being the generators of innovation via indigenous growth" (Rees 1979, p. 48). Pat Norton and I showed empirical evidence for regional life cycles in the U.S. where new growth industries were no longer seen as unique to the traditional manufacturing belt, and the seeds of innovation have spread to what has since been called 'the new industrial spaces" (Scott 1988) of the southeastern and southwestern U.S. More recent empirical evaluation in the U.S. by Sorenson (1997) concluded that the spatial pattern he found "is consistent with Norton and Rees' 1979 conclusion that innovation capacity has dispersed from the traditional manufacturing belt and has led to growth in high technology sectors in the southern and western U.S.A." (p. 302). Given the wisdom implicit in our original formulation in 1979, it is no surprise to me that current studies lend validity to its continued relevance in the U.S. and others saw it appropriate to extend the same theory to explain regional change in Europe (Johansson and Karlsson 1987). Regional life cycle theory explains the potential rejuvenation of older industrial areas and offers a partial explanation for the revival of the original manufacturing belt of the U.S. in the 1990s.

Storper's (1997) criticism that product cycle theories do not provide insights into the "how, why and where" the initial innovation cores build themselves has been answered by regional scientists who have focused on innovative milieu and regional innovation systems (see Hansen 1992). Both of these lines of

research build on product cycle theory to try to understand the underlying dynamics of creative regions. The literature on this whole topic has now become large and somewhat confusing, however, and has become entangled with the rediscovery by geographers and economists of agglomeration economies.

One useful approach that has retained its conceptual clarity is the continuing research by Phil Cooke (2001) and his colleagues in Wales on regional innovation systems and business clusters. In a recent paper on high technology clustering in Cambridge, U.K., Cooke and Huggins (2001) see the reliance on chance as the explanation for events when causality cannot be identified as a weakness of the evolutionary economics school. They see the "historical accident" theory of economists for understanding economic development as ignoring the complexity of evolutionary systems. "To assume a stance based on historical accidents is to ignore the influence of existing culture within a location" (Cooke and Huggins 2001, p. 7). They cite empirical evidence that suggests that the explanation that the creation of high-tech clusters can be associated with the existence of university and research institutions is insufficient given the large number of such institutions around the world that have not acted as cluster catalysts. They see technological development being the product of interdependent choices related to existing network systems and economies of association.

Cooke and Huggins (2001) also suggest that the most important variable affecting the sustainability of strong clusters is *social attachment* to a particular location, in terms of residency and lifestyle, and its influence on both nonwork and economic decision making. "Within Cambridge it is very much informal channels and personal relationships that have shaped the formation of the high-tech cluster, in particular the links between the university and to spin-off companies. Also, while Oxford University has a policy of claiming intellectual property rights generated by staff and students, Cambridge University has adopted a more entrepreneurial policy of endowing originators with intellectual property rights" (Cooke and Huggins 2001, p. 9). The fact that such networking and cluster building actually can be learned is also implicit in the recent resurgence of Route 128 (Best 2000). Business development in these locations reflects a dominant concern for issues of social infrastructure and social capital.

Despite its invention in the salons of sociology, social capital is now seen as a major enabler of innovations by many researchers. According to Jane Fountain (1998, p. 85): "This form of capital, as powerful as physical and human capitals, is the 'stock' that is created when a group of organizations develop the ability to work together for mutual productive gain." It has recently been extended to explain differences in innovation rates among countries with similar capital, labor, and natural resources, though not by regional scientists. The reluctance of regional scientists to attach to such soft and fuzzy concepts is captured in a 1740 opinion by one of my favorite political economists, David Hume. Hume wrote: "Your corn is ripe today; mine will be tomorrow. 'Tis profitable for us both that I should labour with you today and that you should aid me tomorrow. I have no kindness

for you, and know you have as little for me....Here then I leave you to labor alone; you treat me in the same manner. The seasons change, and both of us lose our harvests for want of mutual confidence and security. (Hume 1740, as quoted in Putnam 1993, p. 163). Hume's lesson on the potential benefits of social capital should also be our own.

The link between social capital and creative regions was recently revealed to me through my curiosity as to why Bangalore, India, now joins the list of world-class high-tech locations alongside San Jose, CA, Austin, TX, Raleigh-Durham, NC, and Silicon Fen. Why is Bangalore the software capital of India and why is it so important to American companies? According to Balasubramanyam and Balasubramanyam (2000), Bangalore is the most Anglicized city in India, with a knowledge-intensive base that has attracted multinational companies both as software producers and consumers, thus turning the city into an international gateway for trained labor. About one-quarter of the Indian software industry is located in Bangalore, with 66 MNEs, including the familiar names of IBM, Hewlett Packard, Motorola, and Texas Instruments. Bangalore is not that far from Austin, because Texas Instruments, the *industrie motrice* of Telecom Corridor, was also the first foreign company to establish a subsidiary in Bangalore in 1986, with major links through today. Bangalore is the home of the Indian Institute of Science, dating back to the British Raj, and Bangalore University, with its fourteen engineering colleges. At an elevation of 3,000 feet in the Indian subcontinent, it has also become a "pensioners paradise:" the Charleston of India.

The Balasubramanyams (2000) also see Bangalore as rich in Marshallian-type scale economies, with a specific type of cross-border labor flow involving skilled professionals who emigrated to the U.S. in the 1960s and 1970s, then returned home or opted to divide their time between India and the U.S. (a process referred to as *to and fro brain drain*). This software cluster in Bangalore is far more than an export enclave with minimal impacts on the local economy. "The arresting feature of the cluster in Bangalore, is the match between the knowledge and learning-intensive nature of software and the unique attributes of the city of Bangalore" (Balasubramanyam and Balasubramanyam 2000, p. 362).

Regional science has to be more open to case studies such as these (see collection by Dunning 2000). In addition to our macro scale statistical analyses, we have to include detailed surveys of particular places if we are ever to discover the real story behind the development of creative regions.

IV. FUTURE RESEARCH

In the third and final part of this address, I wish to comment on one line of research that continues to examine the impact of technology on our regions and then on another avenue that we have so far ignored.

Regions in the New Economy

An important step in the evolution of this continuing line of research on technology and regional development is the need to understand what we now

embrace as the "New Economy" and its geographical components. In his new book, *Creating the New Economy*, Pat Norton (2001) provides an eloquent interpretation of how information technology propelled the American resurgence in the world economy during the 1990s and how many of the new entrepreneurs thrived in the new industrial spaces of the American West.

For anyone concerned about the possible impact of the Internet on regional development, I can recommend the continuing empirical analysis of our own past present (see Malecki 2000; Malecki and Gorman 2001). Malecki recently undertook a network analysis of the Internet and uncovered what you might expect as a complex geography. The spatial evolution of the Internet reflects a hierarchical structure that differs from the conventional population-based urban hierarchy. New York and Los Angeles are seen to fall behind both Washington and San Francisco in an Internet-based hierarchy of cities, though America's major cities remain as the major nodes on the Internet. Malecki sees a form of "coastal wrapping," where the east and west coasts are nearer to each other on the Internet than to all but a few nodes in the U.S. interior. A related discovery is the peripheral development of smaller, less-connected cities on the Internet, partly because of the global trend to increase connectivity on high-traffic routes between high-density urban areas. Malecki follows other researchers in concluding that the self-organizing evolution of this major enabling technology, the Internet, may result in the death of distance but not in the end of geography. Telecommunications has a complex underlying geography that is both centralizing and decentralizing in its impact.

Because of such patterns and their implications for a Digital Divide both among and between countries, we have an imperative as regional scientists to keep such topics high up on our research agendas. The landscapes of liberty are forever changing.

Social Capital as Liberator of Regions

In his presidential address to the North American Regional Science council, Niles Hansen (1992) reminded us that economists have given considerable attention to the role of competition in economic development but have ignored the roles of cooperation, trust, and reciprocity. Given the religious imperium implicit in the prevailing orthodoxy of economics (my words), they tend to ignore concepts that have emerged from the salons of sociology. Social capital is one of those concepts that regional scientists cannot afford to ignore in order to achieve a complete understanding of regions. Some of the studies I have referred to earlier suggest that we are accepting the importance of social capital, though we still have way to go. A broader and more relevant approach to methodology may indeed be at the core of our survival as a discipline.

Because the voluntary and self-organizing characteristics of social capital are important foundations of democracy in any region, we need to examine these characteristics and how they evolve institutionally (see Putnam 1993; Fukuyama 1995) While the regional science community has carved out exemplary work on

both the private and public sectors as they relate to regional development, the voluntary, nonprofit, or third sector tends to be within the terra incognita of regions today. Salamon (1997) reminds us that in the U.S. alone, over one million nonprofit organizations had operating expenditures close to $400 billion in 1989, equal to 7 percent of GDP. This third sector can play a significant if unknown role in a region's economic and social development (Rees, Johnson, and Horton 1999).

Julian Wolpert (1977) was one of the first regional scientists to examine geographical variations in the third sector and indeed to use the term "social capital" in this context. In 1988, Wolpert asked whether "regional values" can account for spatial differences in the expressions of generosity in the United States and whether some regions are more generous and supportive of their own residents. His findings are interesting since it was moderate (not high) levels of income, a low level of distress, and relatively smaller community size that appeared to be related to higher levels of generosity in a community. "The regional patterns are not as clear-cut as had been expected . . . the recent rapid urbanization of the Old South and Sunbelt has been accompanied by an accelerated 'catch up' in the quality of their service institutions and organizations. Houston and Denver may now be experiencing the same stage of service development in the arts as nineteenth century Philadelphia and early twentieth century Chicago" (Wolpert 1988, p. 677). Wolpert's work is an exception on a topic that we still know little about at the urban and regional scale. It should be higher on our research agenda as regional scientists. We need to go one step further back in our analyses and examine how the social capital base of our regions determines the human capital components of our emerging technologies. Fukuyama (1995) reminds us that "a healthy capitalist economy is one in which there will be sufficient social capital in the underlying society to permit businesses, corporations, networks and the like to be self organizing" (p. 356).

A strong third sector based on volunteerism and self-organization has to be encouraged in an American society that values individual liberty as it did in the mind of Tocqueville. It is an implicit part of our landscapes of liberty. And we have to help nourish as well as analyze these landscapes of liberty for they are also the theatres of our dreams.

As for regional science, our future is full of promise, though our numbers are starting to diminish. In closing, I remind you of some of the most powerful words of my poet, Dylan Thomas:

> Don't go gently into that good night...
> But rage, rage against the dying of the light.

REFERENCES

Bailly, A.S., and W.J. Coffey. "Regional Science in Crisis: A Plea for A More Open and Relevant Approach." *Papers in Regional Science* 73 (1994), 3-14.

Balasubramanyam, V.N., and A. Balasubramanyam. "The Software Cluster in Bangalore." In J.H. Dunning (ed.) *Regions, Globalization and the Knowledge-Based Economy*, 349-363. Oxford: Oxford University Press, 2000.

Best, M. "Silicon Valley and the Resurgence of Route 128: Systems Integration and Regional Innovation." In J.H. Dunning (ed.) *Regions, Globalization and the Knowledge-Based Economy*, 459-484. Oxford: Oxford University Press, 2000.

Cooke, P. "Regional Innovation Systems, Clusters and the Knowledge Economy." *Industrial and Corporate Change* 2001 (forthcoming).

Cooke, P., and R. Huggins. "High Technology Clustering in Cambridge, UK." In A. Amin, S. Goglio, and F. Sforzi (eds.) *The Institutions of Local Development*, 2001 (forthcoming).

Dunning, J.H., ed. *Regions, Globalization and the Knowledge-Based Economy*. Oxford: Oxford University Press, 2000.

Erickson, R., and T. Leinbach. "Characteristics of Branch Plants Attracted to Nonmetropolitan Areas." In R. Lonsdale and H.L. Seyler (eds.) *Nonmetropolitan Industrialization*, 57-78. Washington, D.C.: Winston, 1979.

Fountain, J.E. "Social Capital: A Key Enabler of Innovation." In L.M. Branscomb and J.H. Keller (eds.) *Investing in Research*, 85-111. Cambridge, MA: MIT Press, 1988.

Fukuyama, F. *The End of History and the Last Man*. New York: Free Press, 1992.

_____. *Trust: The Social Virtues and the Creation of Prosperity*. New York: Free Press, 1995.

Hansen, N. "Competition, Trust and Reciprocity in the Development of Innovative Regional Milieus." *Papers in Regional Science* 71 (1992), 95-105.

Isserman, A.M. "Lost in Space? On the History, Status and Future of Regional Science." *The Review of Regional Studies* 23 (1993), 1-50.

Johansson, B., and C. Karlsson. "Processes of Industrial Change: Scale, Location and Type of Job." In M. Fischer and P. Nijkamp (eds.) *Regional Labor Markets*. Amsterdam: North Holland,1987.

Malecki, E.J. "The Internet Age: Not the End of Geography." In D. Felsenstein and M.J. Taylor (eds.) *Promoting Local Growth: Process, Practice and Policy*. Aldershot, UK: Ashgate, 2000.

Malecki, E.J., and S.P. Gorman. "Maybe the Death of Distance But Not the End of Geography: The Internet as a Network." In S.D. Brunn and T.R. Leinbach (eds.) *Worlds of E-Commerce: Economic, Geographical and Social Dimensions*. Chichester, UK: Wiley, 2001.

Norton, R.D. *Creating the New Economy*. London: Edward Elgar, 2001.

Norton, R.D., and J. Rees. "The Product Cycle and the Decentralization of American Manufacturing." *Regional Studies* 13 (1979), 141-151.

Polanyi, M. *Personal Knowledge*. Chicago: University of Chicago Press, 1958.

Putnam, R. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton: Princeton University Press, 1993.

Rees, J. "Technological Change and Regional Shifts in American Manufacturing." *Professional Geographer* 31 (1979), 45-54.

_____. "Regional Science: From Crisis to Opportunity." *Papers in Regional Science* 78 (1999), 101-110.

Rees, J., and B.L. Weinstein. "Government Policy and Industrial Location." In J.W. House (ed.) *United States Public Policy: A Geographical View*, 213-262. Oxford: Clarendon Press, 1983.

Rees, J., J.H. Johnson, and W. Horton. *Social Capital, Nonprofit Organizations and Regional Potential in the Piedmont Triad, NC*. Chapel Hill, NC: Kenan Institute of Private Enterprise, 1999.

Salamon, L.M., and H. Anheier, eds. *Defining the Nonprofit Sector: A Gross National Analysis*. New York: Manchester University Press, 1997.

Schaffer, W.A. "Regionalists, Regional Science and Love." *Papers in Regional Science* 76 (1997), 1-7.

Scott, A.J. *New Industrial Spaces: Flexible Production Organization and Regional Development in North America and Western Europe*. London: Pion, 1988.

Simon, H.A. *Models of My Life*. Cambridge, MA: MIT Press, 1996.

Sorenson, D.J. "An Empirical Evaluation of Profit Cycle Theory." *Journal of Regional Science* 37 (1997), 275-305.

Storper, M. *The Regional World*. New York: Guilford Press, 1997

Taylor, M.J. "The Product Cycle Model: A Critique." *Environment and Planning A* 18 (1986), 751-761.

Thomas, M.D. "Growth Pole Theory, Technological Change and Regional Economic Growth." *Papers/Regional Science Association* 34 (1975), 3-25.

Vernon, R. "International Investment and International Trade in Product Cycle." *Quarterly Journal of Economics* 80 (1966), 190-207.

Wolpert, J. "Social Income and the Voluntary Sector." *Papers/Regional Science Association* 39 (1977), 217-230.

_____. "The Geography of Generosity: Metropolitan Disparities in Donations and Support for Amenities." *Annals of the Association of American Geographers* 78 (1988), 665-679.