

Lost in translation: towards an economic geography as trading zone

Eva Hoffman's (1989) memoir, Lost in Translation, tells of her change from a lively, garrulous, and curious young child living in Krakow, Poland, to a sullen, mute, and listless adolescent when she and her family move to Vancouver, Canada. After she moves, vibrancy and colour are lost as her life becomes lacklustre and monochrome. She is frustrated by inarticulateness in English, and by a culture she does not understand. She is lost in translation. Slowly, though, she learns the new language and the new culture, and as she does, she counter poses Polish to English, Krakow to Vancouver. Consciously writing and living in English, unconsciously thinking and inhabiting Polish, she creates something in between. Like Joseph Conrad, another native Polish speaker, another brilliant stylist, the result is English writing, but not English prose. It effects a radical translation producing something that is neither English nor Polish, but trades on both.

In this chapter, I also argue for the merits of radical translation. In this case, it is among the different styles of reasoning that constitute current Anglo-American economic geography, and which produce specific conceptions of space, time, and economy in the discipline. Such radical translation is necessary, I suggest, because Anglo-American economic geography, like the adolescent Eva Hoffman, has also been lost in translation. With abrupt intellectual changes occurring in the subject over the last forty years, styles of work no longer fashionable have been quickly marginalized and isolated, and even current work in one style is often presented as orthogonal to work of a different style, with little prospect of dialogue and engagement. For example, in the debate in Antipode around Amin and Thrift's (2000) "Intervention" in economic geography, there is a divide between their cultural position on the economy, and what it calls for in terms of its theorisation of the economy, space, and time, and those of some of the commentators such as Martin and Sunley (2001) and Plummer and Sheppard (2001). In a more recent paper, Amin and Thrift (2005) further separate their position, this time from traditional political economy, creating a seemingly unbridgeable divide between the two (see Hudson's 2005 counter-criticism from the other side of that seeming chasm). Given the fundamentally different positions presented in these debates, there is little sense of reconciliation, or acceptance of criticism, or even the acknowledgment that the other side has anything to offer. Instead, there are only yet more disciplinary fracture lines as Anglo-American economic geography is increasingly fissured. This is regrettable. Instead, I want to move towards a pluralistic, open-to-all-conversation discipline; one that relishes the opportunities for innovation and gain from working across different approaches, rather than erecting blockades to prevent interaction, to close down conversation. One means to such an end, I suggest, is to treat economic geography as a boundary object or trading zone.

The ideas of a boundary object and a trading zone come from science studies, a field of inquiry that more generally informs the paper (Hess 1997; Barnes 2004). Boundary objects are entities, concrete and abstract, sufficiently pliable to allow groups with different perspectives to work cooperatively on them. In the process, new connections are forged as otherwise diverse factions interact and exchange. The historian of science, Peter Galison (1998), labels that interaction a "trading zone." He shows in his work on the history of particle detector devices that different kinds of theoretical and experimental physicists as well as instrumentationists engaged in just such trade over much of the twentieth century, creating a pidgin language to communicate. Furthermore, pidgin became the crucible for forging practices and concepts not conceivable in

the separate physicist traditions. Like Eva Hoffman's or Joseph Conrad's style of writing that is neither English nor Polish but something in between, so pidgin trading language created something not found in each of the separate sub-disciplinary physicist vocabularies. Similarly, I want to argue in this paper that conceiving economic geography as a boundary object provides potential to foster exchange among different perspectives, producing novel accomplishments around the theorisation of economy, space, and time. The result is not the last word in economic geography, the end of the discipline, but its continuation and open-endedness, its disciplinary extension

The paper is divided into three sections. First, I elaborate the conceptual framework. I begin with Ian Hacking's (1985, 2002a and b) idea of styles of reasoning to understand the marked intellectual disjunctions found in the recent history of economic geography. As Hacking argues, though, there remains potential to fashion connections across even radically different styles. Boundary objects and trading zones become potential sites of exchange permitting border crossings, and offering the prospect of a creative pluralism. The philosopher Helen Longino (2002) provides further justification for that pluralism. Set alongside Hacking's work, Longino's pluralism implies that once brought into engagement different styles of reasoning can produce novelty and creativity. Second, I use Hacking's idea of styles of reasoning to understand historically the predicament of economic geography, and the relationship of time, space, and economy within it. To make this concrete I work through a specific illustration, the style of reasoning in economic geography known as spatial science, and given new life by the recent emergence of geographical economics. Finally, I argue that over the last decade, prompted by interdisciplinary projects like science studies, but others as well including feminism, and post-colonialism, there is potential to break down old cleavages and to offer a more pluralistic discipline, an economic geography as boundary object. In particular, following Longino, I discuss four criteria that need to be fulfilled to realise this end. If met, they allow different conceptions of time, space, and economy associated with specific styles of reasoning to connect and enrich the discipline. Economic geography becomes pluralist and multivocal, not singular and univocal.

Styles of research, boundary objects and pluralism

Styles of research

The notion of styles of research comes from the work of the philosopher Ian Hacking (1985, 2002a and b). In many ways, it is a Foucaultian extension of Thomas Kuhn's (1962) idea of paradigms (appropriately, Hacking, 2002a, was recently awarded Michel Foucault's old job at the Collège de France). Kuhn argued that because of both the value-laden nature of theory, and incommensurability among theoretical approaches (they are like Gestalt shifts), science is driven by a series of intellectual revolutions, "paradigm changes," each of which forms distinct, separate, and partly incomparable worlds of enquiry.

Hacking's Foucaultian elaboration turns on understanding Kuhnian paradigms as "styles of scientific reasoning" possessing the critical characteristic of "self-authentication." By self-authentication, Hacking means that each style determines the criteria of truth and falsity by which it is judged, bringing into being the very objects it claims to study. In this sense, a style is

like a Foucaultian discourse producing subjects for investigation like sexuality or criminality or madness, and establishing epistemological criteria for assessing them (that is, calling forth a “regime of truth,” Foucault, 1980, 133).

Like Kuhnian paradigms, styles cannot be compared because their logic, language, and assumptions are quite different. Instead, different styles make their own worlds. What follows is that the meaning of an object and its criteria of evaluation rest on only the style that gives rise to it. We cannot get outside that style to grasp a broader external truth that will reveal the “real” nature of the object or the “correct” criteria of its evaluation because none exists. The meaning of an object and its criteria of evaluation are produced only within the style. There is nothing outside. Different styles create different worlds and concomitant forms of inquiry. This does not necessarily imply a series of separate solitudes, although it might. Those working within a given style, such as has happened in various traditions of economic geography, have erected barriers, stopping communication with those working in a different style. But as I will argue, such barriers do not have to be put up, and there are good reasons for not doing so.

That barriers are raised is often a consequence of a set of social, historical factors. Styles of scientific reasoning for Hacking are not diaphanous, spectral entities that emerge out of thin air, but are tied to specific social and historical “spaces of possibility.” He provides an example: the eighteenth-century Scottish philosopher David Hume’s invention of induction proposed in his 1739 Treatise. Hacking argues that the intellectual conditions for conceiving induction simply did not exist much before Hume. For induction to be possible, it was necessary to have the prior notion of facts as small and detached, as independent particles of information. Mary Poovey (1998) shows that this conception arose only in the late seventeenth century from a set of peculiar socio-political historical processes. Induction, as a result, could not have been conceived earlier. It was contingent upon the prior emergence of a historically contingent ontology of fact making; it was induction’s socio-historical space of possibility. The force of the socio-historical doesn’t just end here, though. It continues, helping to maintain that style, and in some cases, emphasizing its separation from other styles, isolating and quarantining. The social goes all the way down. Kuhn, of course, was fully aware of the power of the social impress in The structure of scientific revolutions (although he appeared to back track in later years), and Hacking has been a key figure in the science studies literature that more than anything else has emphasised the role of the social in epistemology.

Hacking’s view, then, is that scientific inquiry is fractured, not unified (Galison and Stump, 1993, talk about the “the disunity of science.”) Such fragmentation stems from the emergence of distinct self-authenticating “styles of research,” and dependent upon prior appropriate socio-historical conditions. Once such styles emerge, internal social processes can then worsen separation and isolation. This is certainly the case over the long history of Anglo-American economic geography, as I will argue below. Once a style of research was imported into the discipline, inside and outside was defined. Those defined as inside construct barricades that minimize exchange with those defined as outside, consequently producing so many solitudes.

Trading zones and boundary objects

While this appears bleak, Hacking (2002a & b) recently has recognised the possibility of exchange among the solitudes. He draws upon Galison's (1998) work, particularly his monumental history of 20th century micro-physics detector devices and the three very different groups of physicists who work on them: theorists, experimentalists, and instrumentationists. Galison argues that this sub-field of physics is neither a paragon of unified rationality nor a mess of broken shards and fragments, but something in between. Often like Heath-Robinson contraptions, held in place (literally) by bits of wire and solder, the different components nevertheless stay and work together, producing impressive results. For Galison (1998, 46), this is possible because the different participants engage one another in "a trading zone, an intermediate domain in which procedures [are] co-ordinated locally even when broader meanings clash." On the one hand, the three different groups of physicists represent distinct cultures of inquiry, with diverse languages, interests, and objectives. On the other hand, they bargain and trade with one another to realise practical ends. Differences among them are less eradicated than put to one side as they engage in a hesitant, provisional, and locally limited co-operation. Key to that co-operation is the establishment of a pidgin or Creole language. Galison (1998, 47) writes, "boundary work is the establishment of local languages – pidgin or Creole – that grow and sometime die in the interstices between sub-cultures."

This idea, in turn, is drawn from anthropologists studying trade among different cultural groups. Galison (1998, 46) writes:

Anthropologists have extensively studied how different groups, with radically different ways of dividing up the world and symbolically organizing its parts can not only exchange goods but also depend essentially on those trades Within a certain area ... two dissimilar groups can find common ground. They can exchange fish for baskets, forming subtle equations of the correspondence between quality, quantity and type, and yet literally disagree on the broader (global) significance of the items exchanged.

To allow exchange, pidgin develops as an intermediary between the trading parties' parent languages. Neither fully dependent nor independent of those languages, pidgin exists as a hybrid, betwixt and between both.

The same holds in the interaction of sub-cultures of physicists. In spite of deep differences in styles of research, they are willing to trade and construct pidgin languages that make possible limited co-operation, but which can produce startling findings. The pidgin that forges connections, producing new networks, is a local construction, improvised on the spot, subject to dramatic shifts over time, and reflects the historical and sociological circumstances of its construction. It is not the unfolding of some superordinate principle, nor is it the usual form of translation because what is produced is not stable, existing often only temporarily to complete a specific task. But it works.

Galison doesn't use the term, but in effect, he is describing the creation of a boundary object. The term originally comes from Susan Leigh Starr and James Griesemer (1989) in their study of Berkeley's Museum of Vertebrate Zoology. They argue a central tension in science is "between divergent viewpoints," e.g., the three kinds of physicists in Galison's case study, and "the need for generalizable findings," e.g., deriving law-like explanations of atomic and sub-atomic

structures (Star and Griesemer, 1998, 383). For Starr and Griesemer the solution is to construct a boundary object that offers multiple points of attachment, preserving individual researcher autonomy, but also possessing enough stability and cohesion for exchange and collaboration, for the emergence of a trading zone. Star and Griesemer, 1998, 393 write:

Boundary objects are objects which are both plastic enough to adapt to local needs and the constraints of the several parties employing them, yet robust enough to maintain a common identity across sites. They are weakly structured in common use, and become strongly structured in individual site use. These objects may be abstract or concrete. They have different meanings in different social worlds but their structure is common enough [in] more than one world to make them recognizable

This permits different individuals to work on the same object, and to undertake quite different tasks, without being reprimanded for using the wrong method. For boundary objects “inhabit multiple worlds simultaneously, ... meet[ing] the demands of each one” (Star and Griesemer, 1998, 408). For example, in Star and Griesemer’s case, amateur zoologists catch and send sample species to the museum, academic zoologists writes papers on those species, and rich widows provide money to pay salaries for those who preserve, catalogue and display those species. The boundary object, the museum, possesses enough give and elasticity to accommodate these varied interests without reducing them to a single interest. Furthermore, when different groups work on common tasks there is, as in Galison’s case, “‘trade’ across ... boundaries.” Star and Griesemer say resolution occurs not necessarily as consensus, even less as unity. Rather, and similar to Galison, resolution is local and provisional, continuing to display “the traces of multiple viewpoints, translations and incomplete battles” (Star and Griesemer, 1998, 413). By their very constitution boundary objects, like pidgin trading languages, personify disjointed fields, and orthogonal outlooks, but are robust enough to remain in tact, and be productive.

While tensions remain, boundary objects succeed in achieving a better reconciliation among the different parties involved in its study – more open, more democratic, less destructive – than other strategies, and which have included “imperialist imposition of representations, coercion, silencing, and fragmentation” (Star and Griesemer, 1998, 413). Boundary objects and its dual the trading zone, affirm the virtues of pluralism.

Pluralism

Helen Longino (2002) has recently provided a useful rationale and framework for pluralism and which I will connect to boundary objects and to trading zones. My argument is that pluralism is the ideal that underpins both notions.

Longino draws upon both the philosophy of science and science studies to make her case. She argues that the best we can ever achieve are “local epistemologies” defined as “a dynamic complex of beliefs, norms, goals and practices” (Longino 2002, 187). They are local because she thinks it is impossible to know universal truth. Longino (2002, 207) writes:

Knowledge is partial. The contextual embeddedness of inquiry and the locatedness of subjects impose limits on what is knowable from any given location or point of view. No set of knowledge-productive practices will exhaust the ways of acquiring knowledge about phenomena or processes Any given knower will have knowledge limited by social, historical, and geographical location and point of view, and shaped by a particular set of knowledge productive practices.

This does not mean anything goes. There are better and worse forms of knowledge, and which are determined by both rational-cognitive and socio-cultural criticism. That is, by subjecting knowledge claims to both forms of criticism, one can sort and evaluate epistemological claims. Of course, such criticism will not reveal which are true, only those that are unsatisfactory. In this sense, Longino upholds fallibilism, and which connects to Karl Popper's (1972) "falsificationist" thesis. But unlike Popper, Longino recognises that effective criticism doesn't come only in the form of logic (and found in what Popper later called "World Three"), but also as socio-cultural judgments. Furthermore, Longino has a different end from Popper. Popper stops once he recognises that the objective world is a world of multiple possibilities. It is enough for him to have shown that more than one objective world potentially exists. Longino, in contrast, goes farther and claims the usefulness of bringing together and confronting those different worlds. This is her pluralist agenda: to say not only can we never know the Truth because knowledge is always partial, but also to say there is something to be gained by bringing partial knowledges together to mingle and interact. It is the mingling and interacting that is for her so productive and creative. Pluralism has been criticised, however, tarred among other things as eclecticism, anarchy, inchoateness, and procrastination. But for Longino, pluralism is the best we have. She writes, "plurality is not in itself evidence of ... immaturity" (Longino 2002, 188, fn. 25) because differences in "approach must be understood as a critical interaction that advances all of them rather than as a duel requiring a single victor" (Longino 2002, 189). By upholding pluralism's openness, we are able to stave off "inappropriate closure," and in pluralist fashion by playing one model or theory off against another, "establish the limits of (relative) certainty" (Longino 2002, 197).

Both the ideas of a trading zone and boundary object embody Longino's ideal of pluralism, as well as a strategy to carry out research under such conditions. In the case of Galison's trading zone, even though different types of physicists remain within their respective sub-cultures, they engage one another's different styles of research, and through critical exchange construct novel alternatives taking them outside their usual domains. In the case of boundary objects, there is recognition from the beginning that the same phenomenon can be described, approached, and explained from different perspectives; that there is no single right way. Boundary objects are pluralist objects by their very foundation.

My intention is now to put the ideas of this section to work. First, I want to show how economic geography in the past has fragmented along the fault line of different styles of research, creating a set of solitudes, each of which is defined by a self-authenticated account of economy, space, and time. Second, following the promise of pluralism, I show how that conceiving the discipline as a boundary object or trading zone might overcome fragmentation.

Economic Geography

A history of styles

The history of Anglo-American economic geography, and now in existence at the university level for over a hundred years, is a history of different styles of research each associated with particular spaces of possibility, and concomitant social processes of maintenance and separation. Those styles bring with them their own criteria of truth and falsity, and objects of study, setting their respective approach to time, space, and economy.

Anglo-American economic geography first emerged in institutionalised form during the late nineteenth century (Barnes 2000). Its immediate antecedent was commercial geography, and to which German scholars were particularly important contributors (such as Karl Andree in Geographie des Welthandels and Karl von Scherzer in Wirtschaftliches Leben der Völker). Within the history of the Anglo-American tradition, five separate styles of research stand out. Admittedly, this is a crude division, neglecting significant differences among proponents even within a style. Moreover, it is no universal scheme, applying everywhere. Academic geography in Germany, for example, and which historically was influential in shaping the early Anglo-American tradition, has subsequently diverged from it (for example, it barely experienced the radical political economy tradition that has been so much part of the Anglo-American tradition since the 1970s).

The first style in the discipline arising with its formation in the late nineteenth and early twentieth centuries was an encyclopaedism turning on world commodity production and trade, the spaces of possibility of which were defined by colonialism and empire. The second, a regional approach that arose in the 1920s, was produced at least in the United States by increasing insularity, and focussed especially on agricultural products and the farm. The third was spatial science that appeared from the late 1950s, and in the United States was closely linked to Cold War social science, promulgating a quantitative and theoretical analysis of location and space economy. Fourth, radical political economy that began in the early 1970s, was related to wider social and economic discord, and stressed uneven geographical development and concomitant crisis. Finally, the ‘cultural turn’ beginning in the 1990s emphasized both the interconnectedness of the economy with non-economic spheres such as culture, and a wide array of non-economic theoretical sources such as post-colonialism, science studies, and feminism (this latter theoretical move is found in Germany as “kulturtheoretische Wende in den Sozialwissenschaften”). In this case, the spaces of possibility were the shift to post-industrialism and the new economy.

There are two central points about each of the five styles. First, each creates its own objects of investigation, as well as the criteria by which they are evaluated (that is, each style conforms to Hacking’s idea of self-authentication). Second, that bound up with self-authentication is a particular conception of space, time, and economy. For brevity’s sake, it is not possible to work through the details of both points for each of the five separate styles. Instead, by way of illustration I focus on only one of the five, spatial science. Partly it is the style I know best (Barnes, 2004), and partly it is because it has been undergoing revitalization with the emergence

of geographical economics and associated with academic “star” supporters such as the American economist, Paul Krugman.

Self-authentication

Spatial science (and geographical economics), like all the other styles, creates the object it claims to study. In this case, the object that lies at the centre of the investigation, “the space economy,” does not possess an independent existence, but is brought into being by the very style that studies it. Various ideal geometries, for example, around the hexagon, the triangle, the circle, invoked by spatial science, along with particular kinds of mathematical and statistical operations like the maximising function, or the regression line, are brought together to produce an object that never existed before, “the space economy” (Barnes, 1998). Foucault (1978) says that France did not exist before its first census. Likewise, the space economy did not exist before spatial science. Spatial science constructs the entity that it subsequently claims to govern (on the “invention” of the economy also see Buck-Morss, 1995, and Mitchell, 2002).

In particular, Hacking provides a check list of the kinds of subject matter that a new style brings forth and “include[es] new types of: objects; evidence; sentences; new ways of bringing a candidate for truth and falsehood; laws, or at any rate modalities; and possibilities” (Hacking 2002b, 189). There are clear counterparts to each of these for traditional spatial science. So, created by spatial science were: new objects such as punch cards stamped with spatial data, or plotters for drawing computer-based maps; new evidence such as survey data on consumer travel behaviour, or tables of cost and price data for the iron and steel industry; new sentences for bringing forth candidates for truth and falsehood such as regression lines, or linear programming equations, or diagrams of bid-rent curves, isodapanes, and nested hexagons; new laws such as Tobler’s (1970, 236) First Law of Geography that “everything is related to everything else, but near things are more related than distant things;” and new possibilities such as making economic geography finally a science like economics.

In similar fashion, Paul Krugman in developing his own version of spatial science, geographical economics, creates comparable subject matter under the same categories. He invokes new objects that include computer programmes of location simulation, and contained in his laptop that he carries everywhere (Krugman, 1995b); new evidence turning on increasing returns to scale and imperfect competition, hitherto neglected but crucial variables in his view for understanding the form of geographical economics; new sentences, and especially those that take the form of “the lovely little model of Dixit and Stiglitz” (Krugman, 1993); new modalities that turn on principles of maximization and equilibrium, and found everywhere (1995a, 74-75); and new possibilities: “my intention is to establish economic geography as a branch of economics that is taken as seriously as international trade, and I believe that I will succeed in that plan” (Krugman 1995b, 40).

Along with the creation of the new object – space economy – are also criteria for evaluating it. But those criteria are part of the very process creating the new object. Consequently, what is evaluated is not independent of its criteria of evaluation. As Hacking (1985: 146) puts it, ‘... the very candidates for truth and falsehood have no existence independent of the styles of reasoning that settle what it is to be true and false in their domain.’

For example, take the candidate for truth and falsehood within spatial science and geographical economics, central place hierarchy. It is conceptualised in both in such a way that its existence can only be evaluated by formalised means such as by mathematics and statistics. If one doesn't use formal means then one simply isn't engaged in evaluating the candidate, central place hierarchy. The same reasoning is even more exaggerated in Krugman's work. "To be taken seriously an idea has to be something you can model" (Krugman 1995a, 5; original emphasis). But not any old model will work: it must be formalized as "Greek-letter writing" (Krugman 1990, ix). Non-formal means of evaluation might still yield interesting information, but they cannot distinguish the truth and falsity of the objects of spatial science because they have no existence independent of formal approaches to evaluation.

For this reason, the style of spatial science, and in fact all styles, are self-authenticating. One can never independently prove them wrong, because what can be proven depends only upon the style itself. This feature makes the history of economic geography a history of different styles of scientific reasoning.

Time, space and economy

Second, associated with each style is a particular conception of time, space, and economy. They move in lock step with one another. This is not surprising. As part of the very process of creating a new object of investigation – the world production and trading economy, the agricultural region, the space economy, uneven development, culturally embedded economic places – it is necessary to invoke particular conceptions of time, space, and economy. They are necessary constituents of the new object, part of their very furniture as ideas.

Of course, some might argue that time, space, and economy are fixed entities, essential, and consequently unchanging. Kant conceived time and space as fixed *a priori*, outside any context, and Marx thought the same about the basic elements that constituted the economic base. But in line with the science studies approach I've adopted in this paper, I conceive these dimensions as non-essential, as actively constructed within the larger style in which they are set (Latour, 1993, has written about how time and space are produced differently in different settings, and Callon, 1998, has done the same in discussing the economy). The larger point is that time, space and economy have no essences, but are made and remade in different forms, including within different styles of reasoning within economic geography.

Again, I will use spatial science and geographical economics as an example. In constructing its object, the space economy, spatial science and geographical economics clipped together a view of time as linear, a view of space as Euclidean, and a conception of the economy based around the actions of rational individual agents (these assumptions are well discussed by Sheppard, 2000). Holding these elements together was a particular style of reasoning in fact taken from another discipline, pre-twentieth century theoretical physics (Barnes 2003). The details are complex, but there is compelling evidence that spatial scientists both directly and indirectly through their use of ideas from economics took their lead from physics, and which then shaped the kind of object that the space economy became. As a style it was formal, logically rigorous, and mathematical, and which because of the emergence of certain spaces of possibility entered geography in the 1950s. In order to conform to that style, making the object space economy,

particular conceptions of time, space and economy were necessarily invoked. In particular, the equilibrium based physical model required time to be linear because it is necessary to move back and forth about the equilibrium point. If time were conceived differently, say, as non-repeatable, then once out of equilibrium it would be impossible to return. Space must be conceived as Euclidean because there must be predictable and systematic relationships between cost and distance, and about which actors can make rational decisions. Non-Euclidean space would disrupt rational calculus creating mayhem and anarchy. And individual actors must be rational, maximizing agents, akin to moving particles minimizing energy, in order to ensure unique equilibrium solutions based upon constrained maximization mathematical techniques (and also first developed in physics).

This is one example, but the same general principle is found in the other four cases. The style by its very constitution brings with it a particular stance towards time, space and economy that shapes the resulting product. Time, space and economy are always theorised within a particular style, producing a specific self-authenticating construction. To say this is not to suggest that what is produced is then somehow a fantasy creation. Timothy Mitchell (2002) in his work on *Rule of Experts* shows only too clearly how constructions of the economy can produce sometimes vicious and cruel effects on peoples' lives. To call the products of styles of reasoning constructions is never to underestimate their power in shaping the 'real world,' making the world brutally true.

Economic Geography as Boundary Object: The Struggle for Pluralism

The promise of pluralism

The issue is how to break out of these styles that produce only yet more fracture lines. The most recent of the five styles, "the cultural turn," has in fact been vaunted as a pluralist alternative. Early statements about it, for example, by Thrift and Olds (1996), or Crang (1997), suggested that it would be about hybridity, decentred explanations, porousness, and a blurring of different social realms. There was an ostensible pledge to cross boundaries and relate activities that were not normally related. In terms I used earlier, there was the hope of establishing a trading zone.

But that has not yet happened, and given the various responses to Amin and Thrift's (2000, 2005) manifesto for a culturally based economic geography, maybe it will never happen. Part of the problem may well lie in the very title 'cultural turn.' It implies that culture should be the new subject of investigation; that one essentialism, 'economism,' be replaced by another, 'culturalism.' The notion of a trading zone or boundary object is not like that, however. It is not simply replacing one entity with another. That then makes it a fight about who has power over the definition of a subject. Rather it is about an openness to exchange with anyone. It is about accepting difference, and working with it.

Rather than emphasising culture in the "cultural turn," it is perhaps better to call attention to the theoretical frameworks that have been loosely associated with it and drawn from feminist, post-colonial, and science studies perspectives (and in this sense, stress the German understanding of the "cultural turn," "kulturtheoretische Wende in den Sozialwissenschaften." Those theoretical perspectives, and all clearly informed by post-structuralism, have argued for the eradication of

dualisms, the smudging of boundaries, and the openness of intellectual practice. In short, they are an argument for pluralism.

Achieving pluralism is difficult, though. Certainly, it is rarely found in economic geography that continues to clip together particular combinations of space, time, and economy, rarely prising them loose so that they can be joined with other, different conceptions. As Kuhn and Hacking recognised, in large part this is because of deeply inscribed social interests at play that make openness and collaboration across intellectual divides so difficult. Those interests have been well documented and analysed across a large number of contexts – disciplines, academic cultures, geographical settings – but they frequently turn on the same issues: unequal power, past training, institutional entrenchment, differences in vocabulary, and membership within vying social networks (the Edinburgh School of the sociology of science offers the most incisive analysis, see David Bloor’s 1976, now classic text, and in geography, see Taylor, 1976). Consequently, working across and among styles, at the interstices, is not easy because one loses one’s base both sociologically (one is neither fish nor fowl) as well as intellectually (familiar conceptual hand and foot holes are not available). While the goal of open intellectual inquiry may still be lauded as an academic ideal, realising it in practice within a complex of frequently divided and opposed disciplinary social relations is difficult. The stubbornness by which specific combinations of space, time, and economy have been held together within the five styles of research historically characterising economic geography is ample testament to the power of social interests in maintaining separation.

Conditions for Pluralism

Longino in pursuing her pluralist agenda recognises some of these obstacles to achieving openness. It will never be easy to overcome them; it will always be a struggle, and often a struggle that is lost. But for Longino, there is no choice. Remaining within a single style, unwilling to change or consider alternatives, produces sclerosis, dogmatism, and irrelevance. To fight back, Longino provides four suggestions for overcoming such obstacles; that is, she begins to outline potential opportunities and spaces for pluralism to flourish.

The first is to provide venues and appropriate conditions where pluralism can be practised and be effective. Venues would include familiar sites like conferences, journals, forums, and seminars. But to be efficacious, damaging in-group behaviour such as like speaking only to like must be avoided. Additionally, there is the nature of engagement with other positions, and the value attached to it. Criticism, for example, needs to be as highly held as the original work criticised rather than consigned to the back pages of journals or cited only as footnotes. The reverse, as Longino (2002, 129) writes, is that “pedestrian, routine, or uninformed criticism should be valued comparably with pedestrian, routine, or incompetent ‘original research.’” The problem in Anglo-American economic geography at least is that debate is not especially valued. It is work done, in so far as it is done, with the left hand, after everything else is completed, and sometimes motivated by personal animus rather than intellectual gain. Furthermore, publications in which debates appear are not especially valued for academic career advancement at least in Anglo-American geography. It can signal variously that you having nothing original to say, that you are wrong, or that you are a “troublemaker.” It is often best to let sleeping dogs lie. In contrast, if the possibility of pluralism is to be seriously countenanced, debate and engagement are vital.

The second is uptake. Longino (2002, 129-30) writes, “the community must not merely tolerate dissent, but its beliefs and theories must change over time in response to the critical discourse taking place within it.” This must work the other way too, though. Critics must be prepared to take seriously the responses of those who they criticise. In the case of economic geography, there exists, and this is true for the whole discipline, a tolerance of dissent, but the uptake is often lacking. But uptake is the crucial part. It is what turns dissent into a trading zone and the possibility of pluralism. Achieving uptake is difficult in an academic culture not used to undertaking it. In economic geography’s case, it might also be a consequence of the discipline’s small size where key individuals play such an influencing role. Ideas are taken up not because they have been worked out in response to other positions but because star players within the discipline introduce them. This also partly explains the rapidity by which new approaches are introduced into the discipline, and the large-scale changes that sometimes occur.

The third is the provision of public standards meaning an agreement about what constitutes effective criticism, and an appropriate response. This does not imply imposition of a universal benchmark. Needed is only a consensus among participants about what counts as good criticism, and whether reply is warranted. As Longino makes clear, it is not that everyone suddenly agrees to accept a common standard. Rather, the standard emerges processually, “through multiple acts of micro-recognition and micro-criticism” (Longino 2002, 131). Furthermore, standards can change over different debates as well as over time. The importance of standards is not epistemological, to reveal the truth, but pragmatic, providing conditions permitting local exchange.

Longino’s final condition for pluralism is “tempered equality.” By this she means, “the social position or economic power of an individual or group in a community ought not to determine who or what perspectives are taken seriously in that community” (Longino 2002, 131). When trading occurs and a new consensus emerges, it should not be because of the hegemony of a single group or individual. While this appears similar to Habermas’s “ideal speech situation,” Longino’s intent is different. She is not interested in laying out conditions for revealing the truth, Habermas’s project, but establishing appropriate conditions for continuing a pluralistic discussion. Further, it is a tempered equality because discussion cannot involve everyone all at once. That would produce cacophony and dissonance, a Tower of Babel.

And time, space and economic geography?

If these conditions can be met, and pluralism should break out in economic geography, what will it look like? What will be the nature of the disciplinary backbone of time, space, and economy? In many ways, these are impossible questions to answer. They are as impossible as predicting the writing styles of Joseph Conrad and Eva Hoffman once they learnt English, or predicting the nature of micro-particle detection devices once different types of physicists engaged in trading through pidgin. To answer these questions one must second-guess the very nature of the creative process.

Two statements can be made, however. First, that space, time, and economy do not need to line up in the specific combinations found in each of the different styles that have so far characterised

the history of economic geography. Once we think of economic geography as a boundary object, pluralist, novel combinations become possible and likely. Of course, not anything goes. There is still a need to subject any combination to the two forms of criticism Longino discusses: the rational-cognitive and the socio-cultural. But the advantage of unclipping conceptions of space, time, and economy from the styles with which they have been associated is that they open up possibilities previously unimagined. For example, the work Eric Sheppard and I carried out on the “capitalist space economy” was precisely an attempt to draw together the until then two opposed and separated styles of research, “spatial science” and “political economy” (Sheppard and Barnes 1990). While holding on to a Euclidean view of space and using formal methods and techniques, we joined with it political economic conceptions of the economy rooted in production and social class, and non-linear, disequilibrium conceptions of time. In effect, we were mixing and matching across styles, attempting pluralism (although we would not have used such a term at the time).

The second is that through the very process of trading across styles, of constructing a pidgin language, new conceptions of time, space and economy are possible, forming novel hybrids. New conceptions of time, space, and economy emerge from the interaction of different styles, and which before were not conceivable. There are few examples here unfortunately, and in this sense, this claim is a promissory note. It is true that regional science, and now geographic economics, are examples of cross-disciplinary interaction, but they are not examples of interaction across styles because they remain within a single one, formal economic theorising. Perhaps a better illustration is where individuals mix-up styles to create a new entity. A good example is Doreen Massey’s (1984) work of the mid-1980s in which she brought together a political economic construction emphasizing instability and spatial movements of capital within a corporate market economy, and an older conception of regional geography centred on specific places and organic stability over long periods. She creatively combined both styles to form the spatial divisions of labour thesis in which the stability of place and region both figure prominently, while at the same time, recognising periods of massive rupture as capital is spatially reconfigured. This “geological conception,” as Alan Warde (1985) dubbed it, was brand new, representing a creative leap that was neither strictly political economy nor old-time regional geography. It was a hybrid created by a novel juxtaposition of quite different styles or reasoning.

Conclusion

At best, this chapter is a set of notes towards a larger project, rather than the larger project itself. It is motivated by the often-fractionous nature of economic geography in which good work can be consigned to the intellectual graveyard long before its time, killed by fashion not by pathology. Against this premature dismissal, I advocated a pluralistic approach to economic geography that is realisable by treating the discipline as a boundary object, a trading zone among different styles of economic geography. This not only holds out the prospect of extending the shelf life of potentially useful ideas but by emphasizing the importance of interaction among styles, offers the possibility of creative frisson. Different conceptions of time, space, and economy are central to each of the styles of economic geographical reasoning that constitute the history of the discipline. As there is trade among those styles, so new conceptions will emerge, and along with them, new economic geographies.

This may be a vain hope given the last hundred years or so of Anglo-American economic geography. But happy endings are possible. Even Eva Hoffman at the end of her book comes back to the site of her adolescent misery, Vancouver, where she was lost in translation, and finds resolution by writing in English although not by writing English prose. Economic geography needs to do the same. In its case, it needs to write economic geography but not write it in the usual way. The usual way leads to fragmentation, sealed worlds, high walls, and isolation. Instead, we need to write a different world, open, permeable, doors ajar, and inclusive. We need a pluralist world.

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