Is geographical economics imperializing economic geography?

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Abstract. Geographical economics (also known as the "new economic geography") is an approach developed within economics dealing with space and geography, issues previously neglected by the mainstream of the discipline. Some practitioners in neighbouring fields traditionally concerned with spatial issues (descriptively) characterized it as – and (normatively) blamed it for – intellectual imperialism. We provide a nuanced analysis of the alleged imperialism of geographical economics and investigate whether the form of imperialism it instantiates is to be resisted and on what grounds. From both descriptive and normative perspectives, our conclusion is: yes and no. (91 words)

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1. Introduction

The vocabulary of 'imperialism' has become part of the discourse about economics. Its history can be traced back at least to the 1930s, but the generally shared perception of economics as an "imperial" science is of a more recent origin. It is a perception of a discipline that keeps intruding into the realms of other disciplines such as sociology, political science, law, even biology. It is not surprising that the opponents of this trend often call it by the name 'imperialism', but it is perhaps more surprising that the trend is immodestly identified as 'imperialism' by the intruders themselves. George Stigler wrote: "So economics is an imperial science: it has been aggressive in addressing central problems in a considerable number of neighboring social disciplines and without any invitations." (1984: 311). Jack Hirshleifer explains: "What gives economics its imperialist invasive power is that our analytic categories … are truly universal in applicability." (1985: 53) In his recent famous QJE article entitled 'Economic imperialism', Edward Lazear proudly states, "By almost any market test, economics is the premier social science. … At least during the last four decades, economics has expanded its scope as well as its sphere of influence." (2000: 99)

Questions about such a trend are worth asking also in relation to geographical economics and economic geography. Some economic geographers have reacted to geographical economics alleging that it constitutes a further instance of intellectual imperialism on the part of economics. For example, Ron Martin and Peter Sunley assert that there is "an economic imperialism colonising the social sciences more generally, and this is certainly the case as far as the 'new economic geography' is concerned" (Martin and Sunley, 2001:157), and Trevor Barnes suggests that "Krugman's position might be construed as condescending, or even imperialistic" (Barnes, 2003: 89). Others have denied that geographical economics has imperialistic inclinations. Historian of economics Stephen Meardon (2001:26) observes that "claims that the new economic geography makes new forays into uncharted territory - or as more commonly argued […] partly charted but subsequently lost territory - are overstated." Another commentator notes that "Krugman lacks imperialistic ambitions" (Isserman 1996: 145).

Some more recent episodes make these issues topical again. First, the Nobel Memorial Prize *in economics* was awarded to Paul Krugman in 2008 for his pioneering contribution to what the Nobel Prize committee called "economic geography". Second, the *World Development Report* 2009 was conspicuously entitled "Reshaping Economic Geography" while it is entirely written by economists, mostly inspired by the insights of geographical economics.[1] Geographers felt offended, claiming that the report "consigns parallel work by geographers to the distant background if not to oblivion." (Scott 2009: 583; see also Rigg et al. 2009). Third, textbooks are being published with "Economic Geography" in the title and geographical economics inside (Combes, Mayer, Thisse 2008).

[1] Geographical economics is widely known as «new economic geography». We will discuss the issue of labels in Section 4.

‘Imperialism’ is a word that tends to be used with a lot of confusion simply because it is a metaphor loaded with all sorts of implicit descriptive, normative, and emotional connotations. Among the confusions, it may be thought that, necessarily, intellectual imperialism is “aggressive” (as Stigler put it); requires some kind of centralized imperial strategy (as one of our referees suggested); applies ideas to domains where they are inapplicable; and suppresses the rights and identities of researchers in other disciplines. One way of removing such confusions would be to dispense with the word itself. We choose to stick to the word because it is so widely used by practitioners in scientific debate, and we meet the challenge of removing confusions by way of unpacking the word itself. These clarifications are needed regardless of what one makes of economics imperialism, such as denying its existence (“there is no such thing”) or recognizing it as real and supportable (“yes, it happens, and it’s a damn good thing too”) or real and bad (“it is there, and it should be resisted”). In all such cases statements are made about a phenomenon that is typically not well understood.

Hence, we invite readers to bracket whatever prior intuitions they may have concerning the expression ‘economics imperialism’ and to follow our analytical suggestions. Our perspective is that of contemporary philosophy of science (rather than, say, the *Realpolitik* of international relations). Our goal is to edify, to help improve the quality of debate by helping the parties to understand what exactly they are talking about and what standards can be used for assessing it. Current attitudes are partly governed by emotions such as pride and confidence (on the part of the “imperializers”) and anger or fear (on the part of the “imperialized”). We suggest notions of intellectual imperialism that are emotionally neutral and that are connected to specific normative standards that can themselves be rationally debated. It is then up to the practitioners in economic geography and geographical economics to apply those standards in assessing the scientific performance of their theories and explanations.

Intellectual imperialism is a real issue due to a simple fact about scientific inquiry. The acquisition and assessment of scientific knowledge always takes place within a complex (academic and non-academic) institutional structure of which disciplines and their cultures are essential constituents. Epistemic activity does not happen in an institutional vacuum. Every now and then, tensions arise between epistemic aspirations and prevailing institutional constraints. Debates over intellectual imperialism are among the clearest manifestations of such tensions.

So the questions are: is geographical economics yet another manifestation of economics imperialism? And if so, what to make of it? In answering these questions we draw and expand on earlier work on the phenomenon of economics imperialism (Mäki 2001, 2002, 2007, 2009). We distinguish various aspects of the scientific endeavour, epistemic as well as institutional, that the general phenomenon of intellectual imperialism can pertain to. We also investigate whether the forms of imperialism geographical economics instantiates are to be resisted and on what grounds. Our conclusion is: yes and no. Note that none of this has to involve a hostile attitude towards geographical economics (or economic geography, for that matter). The attitudes that one could adopt include celebrating both geographical economics and its imperialistic aspirations; not resisting geographical economics but resisting its presumed imperialism; and resisting one form of imperialism while welcoming another form.

The investigation reported in the present paper is not empirical in the sense that we have collected data and established empirical trends. We rather develop conceptual tools and outline scenarios and arguments that should be of use by those who wish to make statements about the presence, absence, or desirability of intellectual imperialism in situations about which they are empirically informed.

2. Varieties and aspects of economics imperialism

Economics-style models and explanatory principles have been, and increasingly are, used to study marital choices, drug addiction, voting behaviour, religion, crime, war, sports, sex, brain activity, scientific knowledge, and a host of other phenomena traditionally regarded as falling outside the scope of economics. For a few decades now, economics has significantly affected disciplines such as sociology, anthropology, law, and political science, where it has been met with both outright hostility and enthusiastic support. But the debates are often handicapped by treating the phenomenon in an undifferentiated way, forgetting that economics imperialism is not a straightforward, uniform and uni-dimensional trend. The forms it takes, and the aspects of the scientific endeavour it shapes, are relevant for its normative evaluation. A nuanced analysis of economics imperialism in its various manifestations is needed in order to appraise the soundness of arguments for and against it. In particular, epistemic issues need to be analytically distinguished from institutional and cultural issues – even though in actual practice they are closely entangled.

Content, target, and agents

Economics imperialism may involve moves such as crossing borders, trespassing, transferring, intruding, invading, imposing, and so on. Since no single definition can capture all versions and aspects of intellectual imperialism, we will give an idea of some such versions by highlighting a few selected aspects or dimensions of imperialistic moves. Here we proceed by making three further distinctions (Mäki 2007, 2009).

> [1] The first pertains to the *content* of the imperialistic move, divided into imperialism of scope, style and standing. We say more on this in the rest of this section.
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> [2] The second distinguishes forms of imperialism according to the *target* of the imperialistic move in terms of whether it is targeted onto (merely) a domain of phenomena or (also) a discipline. This highlights a difference between the relatively innocent domain-only imperialism and the more radical disciplinary imperialism.
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> [3] The third concerns the *agents* of imperialism, asking whether they work from within the imperializing or the imperialized discipline, that is, whether imperialism is internally or externally driven.

Scope, Style, and Standing

On the basis of content, we distinguish three forms of economics imperialism:

[1a] *Imperialism of scope*. This is a matter of disciplinary expansion in the sense that an expansionist discipline, here economics, takes on the challenge of explaining phenomena that used to belong to the perceived domain of another discipline, here economic geography. Imperialism of scope amounts to striving for explanatory unification irrespective of disciplinary boundaries.

[1b] *Imperialism of style*. This is a matter of the style and strategy of research, namely, the techniques and standards of inquiry and communication, such as whether to prefer verbal narrative or mathematical proof, statistical test or rich case study. Conceptions and practices related to such things are somehow transferred to or imposed on other disciplines.

[1c] *Imperialism of standing.* This is a matter of academic status and political standing as well as acknowledged societal relevance: the growth in the standing of one discipline occurs at the expense of that of another.

These three forms of imperialism are likely to trigger various responses amongst the practitioners of the target disciplines. It seems obvious that the last two tend to trigger the strongest emotional responses. Imperialisms of style and standing challenge the deeper values, social status, traditions, conventions, resources, and life styles of researchers whose domains or disciplines are entered by the imperialists. In many cases, imperialism of scope goes together with imperialism of style and/or standing. If the imperial scope-expanding theory embodies a particular style of theorising, very different from the one dominant in the target discipline, and enjoys a certain standing, higher than the one enjoyed by the target discipline, it might be difficult to disentangle imperialism of scope from that of standing and style. But the link is not unavoidable. If both proponents and critics deem the imperialistic theory just as one among a number of alternative legitimate theories about a domain of phenomena, then it might be that its disciplinary origins are regarded as irrelevant.

In assessing economics imperialism, we prefer keeping the three forms distinct. This is not the line adopted by Lazear. Superiority in style and standing are his criteria. He says that the «power of economics lies in its rigor. Economics is scientific; it follows the scientific method … Economics succeeds where other social sciences fail because economists are willing to abstract.» (2000, 102) Lazear's proposal is to measure the success of economics imperialism in terms of the influence it has on scholars outside of economics; on his rather ruthless metric, «forcing noneconomists out of business» is a sign of success (2000, 103). Our view contrasts with that of Lazear in that his criterion is sociological while ours is epistemological and ontological: the success of economics imperialism should be measured for how well the expanding theory captures whatever degree of unity there is among the phenomena it seeks to unify, irrespective of the number of scholars who endorse it, or more dramatically, of the disciplinary affiliation of those who are forced out of business.

Our position is that for economics imperialism to be fairly appraised, it is crucial to keep issues of scope (domain-only imperialism) separate from those of standing and style (disciplinary imperialism). Whereas imperialism of scope, if properly constrained, is potentially progressive, imperialism of style and imperialism of standing are less obviously so. Positions of academic dominance or fashionable research styles may have little or nothing to do with genuine scientific merits. In some conceivable situations, imperialism of style and standing may hinder scientific progress rather than facilitating it. The higher standing of a theory vis-à-vis another is not a straightforward and reliable indicator of this theory's superiority in solving the explanatory, predictive and practical demands that we value highly. On the other hand, it often happens that a technique proves to do well in disciplines other than the one where the technique was originally developed, so its transfer should be welcome.

3. Explanatory unification and imperialism of scope

It has been proposed that imperialism of scope is a special case of the general methodological norm of explanatory unification (Mäki 2001, 2002, 2007, 2009). It is common in a variety of disciplines that scientists have the goal of increasing a theory's degree of explanatory unification by way of applying it to ever new types of phenomena. That is, one and the same theory – often mediated by its models – is used for explaining an increasing number of apparently different kinds of phenomena. Depending on the "disciplinary location" of the unified phenomena, what we get is either intra-disciplinary or inter-disciplinary explanatory unification. It is largely a matter of social and historical contingency whether the new classes of phenomena are studied by disciplines other than the one in which the theory was originally proposed. Hence it is largely a contingent matter whether the pursuit of explanatory unification translates into imperialism of scope (or inter-disciplinary unification).

So understood, imperialism of scope can be justified on the basis of a respectable philosophy of science that conceives explanatory unification as an important theoretical virtue. Philosophers of science have ascribed further virtues to unifying theories: Whewell (1847) regarded a unifying theory (or consilient theory, to use his phrase) to be more likely to be true, while Friedman (1974) and Kitcher (1981) take the explanatory power of a theory to be a function of its unifying power. Explanatory unification has to do with the idea of "explaining much by little," which can be variously cashed out as for example "minimizing the number of derivational patterns while maximizing the number of conclusions" or "reducing the number of apparently separate and diverse phenomena by showing them to be manifestations of the same set of objects or causes".

Although imperialism of scope can be understood and justified in light of the methodological ideal of explanatory unification, this does not imply that the pursuit of unification and its manifestation in economics imperialism are to be unconditionally accepted. Three kinds of constraint have been proposed: ontological, epistemological and pragmatic (Mäki 2001, 2009). It is only when these constraints are met that imperialism of scope is to be celebrated as a scientific achievement. We first show that the development of geographical economics is motivated by the pursuit of explanatory unification. Next, we reflect on whether geographical economics imperialism of scope meets the ontological, pragmatic and epistemological constraints. This gives us a descriptive and (partial) normative assessment of this aspect of the endeavour of geographical economics.

The structure of unification in geographical economics

The uneven distribution of economic activity shows a fractal dimension, that is, it repeats itself at different levels of spatial aggregation. To geographical economists this suggests that apparently distinct types of spatial phenomena might be (at least partly) brought about by the same kind of economic mechanisms, namely "economic mechanisms yielding agglomeration by relying on the trade-off between various forms of increasing returns and different types of mobility costs" (Fujita and Thisse, 2000: 1). Instead of investigating each of those types of phenomena separately, using a different theory for each, geographical economics proposes a unified approach.

Unification is regarded as a major virtue of geographical economics, a virtue that it shares with theories in more mature fields: "there is a need to unify fields in economics just like in physics, and the book [Fujita et al. 1999] has contributed to this discourse" (Urban, 2001: 151). This is also where the alleged novelty of geographical economic lies. Past spatial inquiry was characterized by a diversity of theories and fields.

> The empirical phenomena […] have been studied thoroughly from many different angles, based on different theoretical frameworks, for a long time. From what is primarily a location perspective there are urban economics, economic geography, regional economics, and regional science. The interaction between economic centers is addressed by international economics, development economics, and industrial organization. One way to proceed would be to investigate each empirical phenomenon separately, using the insights of those of the above fields, inside or outside economics, which are thought to be relevant for the issue at hand. (Brakman et al., 2001: 17-18)

So the choice is between a separatist approach, designing and applying distinct theories for dealing with what appear to be distinct types of phenomena, and a unifying approach, applying and adjusting one grand theory to account for those various classes of phenomena and thereby showing that they are not distinct after all. Geographical economics goes for the latter, proposing a unified and unifying approach deriving agglomeration from the location decisions of optimizing agents within a general equilibrium framework (Brakman and Garretsen, 2003).

As geographical economists themselves recognise (cf. the previous quote), economic geography is one of the disciplines that has traditionally been interested in the spatial distribution of economic activity and in agglomeration phenomena of the kinds geographical economics attempts to unify. Economic geography shares an "interest in the spatial distribution of economic activity, in why regions grow at different rates, and in the fundamental principles underlying cities and the structure of urban systems" (Rodríguez-Pose, 2001: 178). Therefore, in its pursuit of explanatory unification, geographical economics has entered the domain of economic geography and thereby turned into imperialism of scope.

Constraints on imperialism of scope

In order to be favourably assessed, imperialism of scope should be constrained – not just any scope expansion across disciplinary boundaries will do. There are ontological, epistemological and pragmatic constraints that should be met. First, it is not enough just to derive an expanding range of *explanandum sentences* from a theory as an exercise of logic or mathematics. One also must show that the apparently diverse *explanandum phenomena* are united in the real world: that they are of the same kind after all, in the sense that they are constituted by the same components or that they manifest the functioning of the same mechanisms. This is the *ontological constraint*.

The degree of unification suggested by a theory should correspond to the degree of real unity among the phenomena it unifies. Unification by theory should be taken as far as there is unity in the world. Hence, unification should not be a matter of imposition, but of discovery. There is a difference between two kinds of accomplishments: first, applying a highly abstract set of theoretical tools to deal with phenomena in different domains by way of deriving stylised descriptions of those phenomena from the theory; and second, discovering that a set of phenomena are composed or caused similarly, for example are the result of the same real-world mechanism, and hence can be accounted for by the same substantive theory. The ontological constraint requires that the accomplishment should be of the latter kind. Success in mere derivational exercises within formal models will not suffice.

Now it is clear that the practice of geographical economics relies on formal derivations, but this alone does not rule out the possibility of meeting the ontological constraint. As argued more extensively elsewhere (Mäki and Marchionni 2009), even though mathematics has played a prominent role in the unification effected by geographical economics, its pursuit of unification appears to have been motivated by ontological considerations, that is, by the conviction that agglomeration phenomena at different levels of aggregation are brought about by the same kind of real-world economic mechanisms. If this is correct, it implies a recommendation for imperialism of scope. Here is some representative textual evidence:

> […] geographical economics is able to show that *the same mechanisms* are at work at different levels of spatial aggregation. The idea that at least to some extent *the same underlying economic forces* are relevant for explaining the spatial organization of cities, the interaction between

regions within a nation, as well as the uneven distribution of GDP across countries is very important. (Brakman et al., 2001: 323; italics added)

Although pre-theoretic reasons for believing in unity in the world might or might not drive a given theoretical endeavour, it is empirical evidence that should ultimately convince us of whether the theory correctly captures whatever unity there is between phenomena. This leads us to the *epistemological constraint* on economics imperialism of scope. Empirical tests are never conclusive, they always involve ineliminable uncertainty. Well-known difficulties of theory testing in both the natural and the social sciences recommend caution when accepting a theory and rejecting its actual and potential alternatives. Whatever the degree of unity among real-world phenomena, our unifying theory might not get that unity exactly right, and we have no error-free way of checking whether it does. The radical epistemic uncertainty that beset the social sciences also applies to geographical economics, especially given that its empirical performance is still partly an open issue. As geographical economists themselves admit, empirical evidence is still scarce and often inconclusive, and in many cases it still fails to discriminate between alternative explanations (Combes et al. 2008; Brakman et al. 2001 and 2009; Redding 2010).

Furthermore, the partial nature of scientific theories makes it unlikely that highly unifying theories will be able to meet all the relevant explanatory, predictive and practical demands we may have about a set of phenomena. Geographical economics focuses on a limited set of explanatory factors, viz. economic mechanisms that rely on the trade-off between increasing returns and mobility costs, and this limits the range of questions it is able to address. For example, it can address questions such as why economic activity is agglomerated rather than fully dispersed at different scales of spatial aggregation, but not why agglomeration occurs in some places but not in others (Marchionni 2006). Epistemic uncertainty and the partiality of theories provide reasons for rejecting monistic and dogmatic attitudes, and recommend more permissive and pluralistic standpoints with fallibilist modesty. An acceptable economics imperialism should be epistemologically soft and must avoid complacent and arrogant intolerance.

The *pragmatic or axiological constraint* pertains to the significance of the phenomena a theory unifies and of the questions asked and answered about them. There is little reason to celebrate a theory that unifies phenomena regarded as relatively insignificant, irrelevant or uninteresting, while it ignores or marginalizes others that are perceived as highly significant. What counts as significant is a pragmatic and value-laden matter that varies with time, community, and context. Ideas about significance lie beneath many of the economic geographers' charges against geographical economics, revealing the epistemic or other human values that they deem important. Geographers have identified a wealth of issues that the geographical economics models omit and that geographers believe to be important (See for example Dymski 1996, Martin 2008, Olsen 2000, Scott 2004, Sheppard 2001, Sjöberg and Sjöholm 2002, Rigg et al. 2009.)

Judgements of significance can be about the *explanatory reach* of a theory. On one judgement, Krugman's model and its follow-ups "may well be a description of life on some planet somewhere in the universe, but what exactly is its relevance to an understanding of economic realities on planet earth at any time in the past or the foreseeable future?" (Scott 2004: 486). Others argue that because of its omissions, the insights offered by geographical economics are "unable to tell us where it [industrial localisation and specialisation] actually occurs, or why in particular places and not in others" (Martin 1999b: 78). Judgements of significance may also concern *policy implications*. The *World Development Report 2009* has been argued to manifest "paradigmatic blind spots" of geographical economics in that its policy recommendations ignore or suppress highly important issues of power and politics, gender and ethnicity, justice and environment (Rigg et al. 2009). Martin (2008) argues that the geographical economics models are too partial and unrealistic to be suited as a basis for regional policy.

Without taking a stance on any particular claim about significance, it is important to note that there is no way these issues can be bypassed. The diversity of epistemic and other values that implicitly or explicitly guide theorizing must be recognized and openly addressed.

4. Domain-only to disciplinary imperialism?

We have characterised economics imperialism of scope as an attempt to explain phenomena that 'belong' to the domain of a discipline other than economics. This characterization is silent about whether imperialism is targeted merely onto a domain of phenomena or also a discipline. An academic discipline is one thing, and a domain of phenomena is another—even though a discipline is often defined as an investigation of a domain. It is one thing to enter a domain of phenomena in an attempt to explain those phenomena. It is quite another thing to enter a discipline in the attempt to change its orientation, theoretical convictions, and styles of inquiry.

What is involved in *domain-only imperialism* is just the relatively unproblematic imperialism of scope that we have discussed. When an expansive discipline enters a new domain of phenomena seeking to explain them, this alone might not be perceived as inappropriate by the practitioners whose discipline is defined in terms of that domain. This is even more so if the expansionistic theory only seeks to explain a subset of phenomena comprising the domain in question. On the other hand, *disciplinary imperialism* goes further in that it involves attempted reshaping or, in the extreme case, replacing the target discipline. Imperialism of style and of standing (with or without an accompanying imperialism of scope) are versions of such disciplinary imperialism.

There are three questions related to this distinction that deserve our attention. The first is whether the domain of phenomena that geographical economics entered 'belongs' to economic geography and not to geographical economics. The second is whether geographical economics imperialism has concerned only the domain or also the discipline. The third concerns the non-neutrality of labels.

Whose domain?

The term 'economics imperialism' has typically been used to refer to cases where the newly entered territories were perceived as falling outside the traditional domain of economics (crime, marriage, religion, science, bureaucracy). One of the most problematic aspects of this form of economics imperialism is taken to be that "as scientific methodologies move further away from their central areas of application, their abstractions become even grosser, and their relevance to the phenomena ever more distant" (Dupré 1994: 380). Geographical economics imperialism however appears to be immune to this kind of criticism because it is concerned with domains perceived to naturally fall within the purview of economics.

The German locational school of von Thünen, Weber and Lösch dealt with issues of space, relied on mathematical modelling - though of a different sort than in present day geographical economics - and to some extent represents a common ancestor of both geographical economics and economic geography. Indeed, some believe that geographical economics is just a repackaging or at any rate a continuation of those economic ideas and style of analysis, which geographers have rejected long ago (Barnes 2003). In addition, although the general mainstream of the economics discipline ignored spatial questions, sub-disciplines such as urban and regional economics didn't (Meardon 2001). This gives support to those who claim that because spatial issues belong to the perceived domain of economics, geographical economics is not a case of economics imperialism.

Allen Scott rightly points out the futility of possessive claims to spatial phenomena on the part of economic geographers.

> The geographer's stock-in-trade, nowadays, is usually claimed to revolve in various ways around questions of space and spatial relations. This claim provides a reassuring professional anchor of sorts, but is in practice open to appropriation by virtually any social science, given that space is intrinsically constitutive of all social science. In fact, geographers and other social scientists regularly encounter one another at points that lie deep inside each other's proclaimed fields of inquiry (...) (Scott, 2004: 481)

Perceived disciplinary boundaries are blurred and unstable, they are never explicitly and sharply defined nor fixed once and for all, and they are largely the result of social and historical contingencies. Rather than space having been viewed as somehow distinctively non-economic and therefore permanently excluded from the domain of economics, there was a period when spatial issues were just neglected by the mainstream of the economics discipline as a subject of active research. This historical and academic contingency created room for others, namely economic geographers, to appropriate the vacant territory. Now some economic geographers may feel that the renewed interest by economists in that territory constitutes a case of imperialistic intrusion.

It is illuminating to contrast this case with the more familiar cases of economics imperialism. Crime, marriage, religion, law, sex, suicide, voting and bureaucracy used to be identified as non-economic phenomena that belonged to the domains of non-economics disciplines such as sociology, political science and legal theory. Since the 1950s, economics has entered all those disciplines and their previous domains. This seems a far more radical change than the renewed interest in space by economics.

Although feelings of possession towards their own domain might partly explain the defensive accusations by economic geographers, it would be unfair to reduce them to those feelings alone. There are likely to be other sources of worry.

Fears of disciplinary imperialism

What may have motivated the economic geographers' accusations is the fear that domain-only imperialism might turn into disciplinary imperialism. Commentaries are divided on this issue. Some imply that geographical economics is a case of domain-only imperialism. For instance, "Krugman has not so much entered into the discourse of geographers as appropriated some geographic questions." (Dymski, 1996: 448-9). Another commentator explicitly takes up the imperialism issue and notes that

> […] Krugman, unlike Isard, shows no signs of wanting to start a new discipline or even to establish colonies within geography departments. He just likes the term economic geography [..] but Krugman's word choice is probably as poor as Isard's was. Krugman's work is economics, not geography. The cumbersome "geographical economics" […], if not the familiar regional economics or location theory, or even the JEL classification spatial economics, would have made clear that Krugman lacks imperialistic ambitions" (Isserman, 1996: 45).

On the other hand, some economic geographers have expressed the fear that geographical economics could end up imperializing their discipline. Here is an informative passage:

> Today, the field [economic geography] is subject to particularly strong contestation from two main sources. One of these lies largely outside geography proper and is being energetically pushed by economists under the rubric of a new geographical economics. It represents a major professional challenge to economic geographers by reason of its *threatened appropriation* and *theoretical transformation of significant parts of the field* (Scott, 2004: 483; emphasis added)

This probably captures the empirical and emotional springboard of the anti-imperialist resistance. It is plausible that what has mostly motivated the suspicious reactions of economic geographers has been the fear that the re-emerged interest of economists in spatial questions might transform into disciplinary imperialism that reshapes or replaces the discipline of economic geography. A criticism of the *World Development Report 2009* blames it for ignoring the contributions of economic geographers, ending with an emotionally laden question, «how would economists feel if a group of geographers sought to reshape economics and blithely ignored their scholarship?» (Rigg et al. 2009,

135) These qualms may turn into an existential anxiety that supports a defensive attitude, that of protecting one disciplinary culture against being replaced or deeply affected by another. As one geographer emphatically puts it, "Defending our version of economic geography is also defending our identity and our 'cultural existence' as a discipline and as individuals." (Schoenberger 2001: 379).

'New economic geography' or 'geographical economics'?

Labels are not arbitrary, they convey messages, and those messages are not always in full control by those who use the labels. The two labels at stake here can be aligned with our distinctions, but obviously they have not been consistently used with the following connotations.

'Geographical economics' appears to denote an activity taking place within the discipline of economics – an activity dealing with geographical issues. This is in line with the idea of domain-only imperialism: economics expands its domain by seeking to explain spatial phenomena, including those that were previously dealt with by economic geography, but the latter's values and practices are not put in question. On the other hand, *'new economic geography'* appears to name an activity that takes place within the discipline of economic geography, or with important consequences for this discipline. This suggests disciplinary imperialism that seeks to transform the target discipline. 'New economic geography' implies the idea of 'old economic geography' and these labels are not value-free given the current culturally sustained attitudes concerning age. What is old is appropriately replaced by what is new. Furthermore, once the replacement has successfully taken place, the attributes can be dropped: 'new economic geography' may become just 'economic geography'. This seems to be exemplified by the title of a recent textbook in geographical economics entitled *Economic Geography* (Combes et al. 2008).[2]

A further complication is due to a domain-discipline ambiguity. What starts out being used as a name of a domain may transform into a name for a discipline or research field. This seems to have happened to 'economic geography'. Krugman's «Increasing returns and economic geography» (1991) used 'economic geography' to name a domain of phenomena, namely economic phenomena with a difference-making spatial aspect, and not the discipline of economic geography. By the time the Nobel Prize Committee made its statement about Krugman's contributions to 'economic geography', the phrase had undergone a semantic shift, now naming a research field or discipline. The latter usage has thereafter spread. The label of 'new economic geography' is different. In contrast to the early uses of 'economic geography' as a name of a domain, 'new economic geography' is unambiguously a name for a discipline or research field.

5. Disciplinary imperialism and institutions of inquiry

The most innocuous form of imperialism is imperialism of scope in its domain-only variety. This could be accompanied by healthy scientific competition and/or collaboration

[2] As one of the referees pointed out to us, however, the book was first published in French under the title «Economie géographique».

that inspire all contestant or contributing disciplines to improve their explanatory performance with respect to partly shared domains of phenomena. The innocence will vanish once this turns into disciplinary imperialism that endangers the characteristic practices or identity-constituting ways of life in the target discipline so as to replace or reshape them with those of the imperializing discipline.

How to assess disciplinary imperialism

The move from domain-only imperialism to disciplinary imperialism gives rise to a whole new set of issues that cannot be settled in the ways suggested in section 3. It is a shift from epistemic issues to institutional and cultural issues. The principles guiding our attitudes and strategies regarding disciplinary imperialism are different but they should meet the demanding challenge of connecting the institutional/cultural issues to the epistemic ones. They should help us to identify and design institutional arrangements that maximally promote the acquisition of relevantly true information about the world, as well as to identify and remove arrangements that inhibit such a pursuit. This is the agenda of so-called *social epistemology*.

Social epistemology deals with the institutional structure of scientific inquiry. It is based on the obvious idea that inquiry does not take place in an institutional vacuum and that the institutions of inquiry make a difference for its performance. In characterizing optimal scientific institutions, social epistemologists typically emphasize the importance of sufficient variety of viewpoints as well as sufficiently open and critical conversational culture. Too much homogeneity and closed dogmatism would be epistemically risky; they would make the recognition of even major errors difficult and would discourage the creation and pursuit of alternative and possibly fruitful lines of inquiry. On the other hand, too much heterogeneity and criticism would also be inadvisable. (For extended arguments, see e.g. Goldman 1999, Kitcher 2001, Longino 2001.)

We can now envision different simplified scenarios of disciplinary imperialism. At the optimistic end, we have the *improved articulation scenario* that portrays disciplinary imperialism as triggering critical reflection and explicit articulation of the foundations of theories and standards on all sides, thereby making claims better justified. This would take place through arguments, persuasion, conversation, debate and criticism. In some cases this can contribute to improving the standards of inquiry in both the target and the imperializing discipline, or in one of them.[3] At the pessimistic extreme, the *crowding-out scenario* depicts disciplinary imperialism with a monopolistic bent taking place by way of conquest, imposition, dismissal, and administrative measures. A wholesale conversion like this can have unpleasant consequences for scientific progress by suppressing alternative styles of inquiry. In between the two extremes, there is the *re-ranking scenario* on which the theories and methods previously held in the target discipline become ranked lower than the newly introduced ideas transferred from the imperializing discipline. In practice, re-ranking may result in crowding out, and in principle, re-ranking is compatible with improved articulation. The kinds of consideration that motivate social

[3] Some commentators (e.g. Miller 1997) take the conflict economics imperialism generated within political science to have prompted political scientists to critically reconsider their own standards.

epistemology support the improved articulation scenario and make us wary of the crowding-out scenario.

Standing

The imperialistic successes of a discipline may be based on its academic and political standing. A powerful discipline tends to be listened to by policy makers and supported by university administrators, admired (perhaps with envy or irritation) by neighbouring disciplines, and funded generously by research funding agencies. The chances grow that if such a high-status discipline starts explaining phenomena that used to belong to the domain of a lower-status discipline, this may gradually have consequences for the customary practices and even survival of the lower-status discipline.

Economic geographers have reflected upon the issue of the standing of economics vis-à-vis economic geography (see Martin 1999b; Henry et al. 2001; Amin and Thrift 2000). Henry et al. observe the powerful position that economics occupies in the social sciences, also visible "in the media and in numerous branches of government and other institutions responsible for policy work" (2001: 203). They go on to point out how "the hegemony of economics has been reinforced by the way that formal academic audit research has valorised work in certain journals"; and finally, they notice that "the hegemony and confidence of neoclassical theory seemingly rubs off on those graduates who go off to work in Whitehall, the Bank of England, the city of London, and finance" so that "there is a clear bond between the role enjoyed by economics as an academic discipline and the characteristics of policy audiences seeking economic knowledges" (Ibid. 203-204).[4] Some economic geographers express dissatisfaction with what they perceive as their relatively inferior position vis-à-vis economics (e.g. Amin and Thrift 2000).

Widespread seems the image of two disciplines engaged in an "uneven battle out of which economists, given their sheer size and public influence, are likely to emerge victorious" (Duranton and Rodríguez-Pose, 2005: 1695). As mentioned above, these concerns seem to be justified by the recent *World Development Report 2009* which has been considerably influenced by geographical economics theories, while largely ignoring economic geographers' work. A few commentaries have complained that the focus on the narrow set of explanatory factors considered by economic theory has produced a rather simplistic picture of the influence of geography on development, something that could have been avoided had geographers' work been taken into account (Bryceson et al. 2009; Rigg et al. 2009). All this testifies that a significant component of the worries of economic geographers has to do with the standing of economics and of geographical economics vis-à-vis their own discipline.

We propose that when imperialism of scope and standing occur together, a particularly cautious attitude should be adopted. The danger is that the powerful position of a discipline or approach gives it an extra edge in the scientific competition independently

[4] Similarly, "The ideological power of economics is such that it may not actually matter whether or not there is an academic economist whispering in the minister's ear; the minister can hear the whispers anyway" (Peck 2000: 256).

of its epistemic performance. If geographical economics has greater policy influence than economic geography just in virtue of the higher standing of economics, and not in virtue of any spectacular empirical support or explanatory performance it has gained in the domain of spatial phenomena, then we might be facing a suspicious form of economics imperialism. (A similar danger can emerge also when a hegemonic theory develops within one discipline, irrespective of its empirical credentials.) There is no need to discourage attempts at unification within the sciences in order to protect us against these dangers; the kind of pluralistic environment discussed above constitutes the best hedge against the hegemony of inadequate theories.

Style

Another mechanism whereby domain-only imperialism can turn into disciplinary imperialism is through imperialism of style. If a given style of doing research is deemed scientifically superior, what was initially an application of a theory to a new domain of phenomena can turn into a widespread commitment to this allegedly superior style, also within the target discipline. Crowding-out or re-ranking scenarios would materialize.

Suspicions of imperialism of style constitute another considerable source for the economic geographers' accusations of improper imperialism. Indeed, geographical economists have at times expressed dismissive attitudes towards styles of inquiry that do not conform to the standards of economics. Krugman remarks that "to be taken seriously an idea has to be something you can model" (Krugman 1995: 5).[5] In geographical economics publications, one can find statements such as "the standard model of *economic geography* relies on the Dixit-Stiglitz model of monopolistic competition" (Combes et al. 2008: 54; italics added). In one of the few explicit defences of geographical economics against the charges of geographers, Henry Overman (2004: 503) argues that the approach of geographical economics avoids "vague theory and thin empirics", problems that beset economic geography. First, mathematical models serve to identify which assumptions are crucial for obtaining which results, and models in geographical economics allow the derivation of macro behaviour from micro behaviour in an internally consistent way. Second, empirical work in geographical economics is often more rigorous than in economic geography: the former places more emphasis on the identification and testing of refutable predictions and on issues of observational equivalence.[6] Such statements, whether intended or not, can contribute to creating the impression that economists regard their style of inquiry as somehow superior, or more dramatically, as the only serious scientific game in town, thereby justifying either crowding out or re-ranking.

A number of economic geographers have commented on the methodological divide between the two disciplines (Martin 1999b; Amin and Thrift 2000; Clark 1998; Dymski 1992). The style of economic geography is portrayed as one in which "explanations are built 'from below,' often relying upon close dialogue with individual agents and

[5] Krugman then concedes that important insights might be developed even without the aid of formal models, but that "strangely, though, I can't think of any" (1995: 88).
[6] Overman (2004) also points out that geographical economics has its own weaknesses and that there are areas where interaction with geographers would be beneficial.

organisations, and linking this 'local' knowledge with wider, larger stylized facts and conceptual frameworks" (Martin 1999b: 81). By contrast, geographical economics is characterised by "deductivist, mathematical demonstration" in which the focus of interest is shaped by "mathematical tractability rather than the apparent diversity of economic systems" and "the complexity of the economic landscape is one of mathematical solvability, rather than empirical messiness and particularity" (ibid. 81; Clark 1998). Sometimes philosophical labels are applied, such as when claiming that geographical economists employ «positivistic accounts», whereas economic geographers have abandoned them in favour of «realist approaches» (Martin 1999b).

As we have argued elsewhere, many such characterizations are based on misunderstandings and inaccurate images that tend to exaggerate the differences. The divide between the two disciplines cannot be captured in terms of positivism versus realism, and their explanatory questions are characteristically complementary rather than rival (Mäki and Oinas 2004; Marchionni 2004).[7] Nevertheless, what emerges from this aspect of the dispute is that the worries expressed by economic geographers have a lot to do with imperialism of style, namely the fear that the general equilibrium rational choice models of geographical economics, and the associated formal and econometric techniques, could invade their discipline at the expense of their own preferred styles of theoretical and empirical inquiry.

Some economic geographers however have conceded the possibility that there might be something to learn from geographical economics. For instance,

> "Even if one rejects the logic behind the approach underpinning most economics, there are a few ingredients that economic geographers would do well to retain. These include stringency and precision in conceptualization. Not least empirically, major gains are to be had from conceptual clarity and theoretical propositions that are amenable to verification […] Similarly, formal logic has some desirable properties, such as clarity of expression and being able to identify counterintuitive results" (Sjöberg and Sjöholm 2002: 477; see also Martin 1999a: 389)

In a similar spirit, Duranton and Rodríguez-Pose (2005: 1703) note that "[e]ach approach has its advantages and disadvantages" and hence that "[f]inding a middle ground between the two approaches could help maximize the advantages of both of them and minimise some of the problems that become exacerbated at the extremes". In line with the improved articulation scenario, this is one route whereby economics imperialism, even when it involves issues of style, can potentially generate scientific progress.[8]

[7] Besides, economic geographers also adopt formal models, though these typically differ from the general equilibrium models grounded in rational choice theory of geographical economics (see for example Plummer 2003, Sheppard 2001).

[8] In case this were taken to presuppose that there is one best scientific method and that we know what it is, it is worth reminding that this idea has been long ago found unsound by most philosophers of science and others in the science studies community. Recognising the legitimacy of a variety of scientific standards and styles of research however does not imply giving up standards of good scientific practice altogether.

6. Agents and institutions of inter-disciplinary relations

Our third distinction concerns the disciplinary location of the agents or the sources of the imperialistic moves: those located within a discipline and those located outside its boundaries. This gives us a distinction between *internally driven imperialism* and *externally driven imperialism*. We have a discipline, economic geography, with some idea of the set of phenomena constituting its domain. We also have geographical economics style of reasoning, originating in another discipline, that of economics. The question is whether the geographical economics style of reasoning with respect to that domain is introduced and practiced *by economic geographers* or *by economists*. The difference between internally driven and externally driven imperialism often makes a difference for the overall dynamics of the disciplines involved. What began as externally driven imperialism might be reinforced by internally driven forms of imperialism, so that a mild form of domain-only imperialism might slowly turn into a stronger disciplinary intrusion leaving decreasing room for alternative approaches in the target discipline. Internally driven imperialism might at first seem less problematic in being voluntary and not based on external imposition. Yet, it might simply be more subtle, especially if it involves extreme forms of imperialism of standing and/or style.

The divide between externally-driven and internally-driven imperialism is also empirically unstable. Geographical economics is mostly an instance of externally driven imperialism, that is, driven by economists. This sets it apart from the familiar instances of economics imperialism as presently practiced such as those in political science, law, and sociology where practitioners in the target disciplines are actively involved in the expansion of the scope of economics. In some of those cases, what begins as externally driven imperialism can become, or can be reinforced by, internally driven imperialism as it occurred in political science and law. For the time being, however, we have no reason to believe that this pattern will be implemented in the case of economic geography.[9]

The range of possible attitudes and activities within the target discipline includes not just active importation of ideas from the imperial discipline, but also those of more passive welcoming and other sorts of supporting of the imperializing moves. However, economic geographers have mostly considered strategies to combat the perceived imperialist ambitions of geographical economics. Three responses have been proposed: to retreat, and so to abandon that portion of the domain that economists now address, giving it over to them; to communicate with the imperialists; and to ignore the imperialist theories and aspirations.

The response of *retreat* has been recommended by Amin and Thrift (2000: 8) who warned economic geographers that they "would be fooling [themselves] if [they] believe

[9] In 1996, Dymski noticed that "geographers inclined to agree with Krugman already use such models (if not his models); and those who inclined to disagree with him are unlikely to accept his characterisation of theorizing as an extended conversation with mainstream economics." (1996: 448-9) If Dymski's observation is right still today, then internally-driven imperialism is likely to remain a peripheral phenomenon in economic geography and will co-exist with a variety of approaches to spatial issues.

that [they] can lie down with the lion and become anything more than prey". They urge economic geographers to leave aside "economic issues" as a strategy to resist economists' imperialism. Many geographers have expressed the worry that Amin and Thrift's proposed strategy could have the opposite outcome, that is, to strengthen economics imperialism, or in our words, to contribute to the implementation of the crowding out scenario. "If we vacate areas of economic geography on the grounds that they are too 'economic', we could find more and more of the subject being colonised by these new geographical economists." (Martin and Sunley 2001: 158) The worry is shared by others: "As long as geographers turn their backs on economics the traditional turf of economic geography will be colonised, not because economists are inherently imperialist ... but because geographers shy away from dialogue" (Sjöberg and Sjöholm 2002: 476). Accordingly, some economic geographers have thought that the best response is to *communicate*: to keep hold of the domain, while communicating with the economists, and thereby improve both their own and the imperialists' theory (see Duranton and Rodríguez-Pose 2005; Dymski 1996; Martin and Sunley 1996; Sjöberg and Sjöholm 2002). Others however doubt that there is any common ground between the two approaches; rather than communicating with them, geographers had better adopt the third strategy and *ignore* the economists' imperialistic theories (see Martin 2003).

Which of such responses will be selected makes a difference for the dynamics of scientific progress. The consequences of scientific imperialism for the disciplines involved depend both on the actions and attitudes by those in the imperialising discipline and on the actions and attitudes of the imperialised. Economic geographers' responses to economics imperialism play a role in bolstering or hampering its progressive potentials or detrimental effects.

Of the three kinds of response we recommend communication. But, as we have seen above, useful interdisciplinary communication presupposes rather ideal attitudes and institutions that support, at the same time, criticism and tolerance, pluralism and stringency, self-reflection and open-mindedness. In such circumstances, no theory or method or argument would be accepted or rejected just because of its disciplinary origins or affiliations. Arrogant imperialism ignorant about the target discipline as well as defensive anti-imperialism ignorant of the imperial discipline would be banned. Mutually fruitful interaction "will depend on one group overcoming its indifference and the other overcoming its thinly disguised hostility" (Overman 2004: 513). Ideal communication within and between disciplines is a way to identify the strengths and weaknesses of theories and methods and thereby to foster scientific progress. This is in line with the norms of social epistemology and the improved articulation scenario.

That the above principles have been widely accepted is manifest in a number of concrete attempts intended to bridge the gap between economic geographers and geographical economists. These include the publication of *The Oxford Handbook of Economic Geography* (Clark et al. 2000), and the launch of this journal, platforms intended to support cross-fertilization between the two disciplines. Yet, it is clear that the ideal circumstances are not yet here. On the basis of patterns of cross-references in leading journals for geographical economists (viz. *Regional Science and Urban Economics*) and for economic geographers (viz. *Economic Geography*), Duranton and Rodríguez-Pose (2005) note that mutual ignorance still characterizes the relation between the two disciplines.

7. Conclusions

Our general conclusion is that one should not rush to pass judgement on whether a given academic phenomenon is an instance of economics imperialism, nor on whether to welcome or resist it. One should first examine the complex phenomenon using refined concepts that highlight its multiple aspects and variations. We have supplied a few such concepts that might be useful.

Imperialism of scope in its domain-only variety is the most innocent and supportable form. No domain of phenomena is the sole «property» of a discipline, so attempts by neighbouring disciplines to explain those phenomena should not be resisted. Such attempts often manifest the ideal of pursuing explanatory unification by extending the range of phenomena explained in terms of a theory. In particular, spatial phenomena, using the words of Scott cited above, constitute a domain "open to appropriation by virtually any social science, given that space is intrinsically constitutive of all social science". But any claims to cross-disciplinary (imperialistic) explanatory unification must be constrained ontologically (those claims must be interpretable as claims about real unity in the world), epistemologically (the claims must be made with modesty, with awareness of their fallibility), and axiologically (the explanatory questions asked about the phenomena allegedly unified must be significant, they must satisfy some human, societal or cognitive values).

It is more demanding to assess disciplinary imperialism, an attempt to reshape or even replace a target discipline, its convictions and conventions, theories and methods, values and heroes, lifestyles and identities, institutional resources and political influences. Imperialism of style may in principle inspire the target discipline to self-examine and improve its methods and standards of inquiry (as on the improved articulation scenario) – but it may also lead to an underestimation or even demolition of approaches and styles of inquiry that are valuable in meeting some important epistemic or human demands (as on the crowding out and re-ranking scenarios). Imperialism of standing may be based on misusing weakly justified images of academic prestige so as to enhance the academic or societal status of a discipline at the expense of that of another – or, in some (rare) cases, it may be a way of reallocating institutional resources and power positions in a way that reflects the actual epistemic capacities and performances of the disciplines involved.

Intellectual imperialism is potentially progressive, but it may also generate scientific loss and regress. Because passing judgement on these matters is highly fallible, it should take place in circumstances that support criticism and self-criticism, tolerance and pluralism, mutual respect and understanding. Disciplinary boundaries are not carved in stone. Neither are theories and methods, nor the standards for measuring their quality. We join those commentators who see that the best strategy to resist the dangers of economics imperialism and to exploit its potential for scientific progress lies in open communication and cross-fertilization rather than arrogant neglect and fearful rejection.

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