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Peripheries within economic geography: Four "problems" and the road ahead of us

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ABSTRACT

This paper is a theoretical contribution to interrogate and elucidate a term commonly used (but rarely interrogated) from the perspective of the economic geography field within which we work: peripheries. As researchers of "peripheries" we are all too familiar with the fuzziness and problematic nature of this term, and our long-standing research agenda is to work towards clarifying and nuancing it, addressing its role in either stigmatizing or assuming some predetermined destiny for different regions and territories. This paper reviews the work conducted on peripheries within economic geography, and identifies a number of gaps or problems in the way in which this term is used. The paper proposes a way forwards for addressing these problems, in a series of "suggestions" as to how we can do better in researching economic geographies of peripheries. The final discussion reorients our debate towards possible avenues for the research community to anchor peripheries in theoretical advancements and a more systemic approach to empirical investigations. Finally, this paper proposes a holistic framework for studying peripheries in economic geography, which take into account environmental, socio-cultural, and political elements as well as pure economic issues.

1. Introduction

Research into peripheries and rural areas is experiencing something of a renaissance or golden era at the current time. Writing in 2003, Hayter et al. argued that peripheries have been largely overlooked within human geography and provide some reasoning as to why this is the case: the drivers of economic growth (agglomeration) reside in the core, whereas peripheries are, as they put it, elsewhere, difficult to reach, and far from most academics and decision makers. Today, however, a bustling community exists within economic geography of researchers examining peripheral, remote, and rural areas. We see numerous papers published in the journals of our field (Eder, 2019), numerous special issues at conferences, and dedicated workshops and conferences for devotees of research into peripheral areas. Within related fields of innovation and entrepreneurship studies, the same is true. The rural studies community also has a long-standing interest in the kinds of regions we are focusing on here, best illustrated by a recent special issue in the Journal of Rural Studies entitled "innovation in peripheries and borderlands" (Makkonen et al., 2020). However, some profound gaps or shortcomings in our understanding of peripheries still exist, which this paper directly addresses. Our aim is to set out a research agenda for an investigation of peripheries within economic geography, that directly addresses the gaps which remain open to date, providing some ideas as to how we can develop the sub-field going forwards.

Conceptual fuzziness exists around the concept of peripheries, and the field is a contested and contradictory one. This fuzziness has long limited the possibility to undertake a systemic approach to the exploration of peripheries as geographical constructs. On the one hand, we have the planetary urbanists arguing that the whole world should be understood through the lens of the 'core'. Take, for example, the claims of urbanization proponents Brenner and Schmidt who argue that there is "no longer any *outside* to the urban world" (2014:751 italics in original). On the other hand, we have scholars within geography and rural studies arguing that peripheral and remote regions are special, different, and unique (Copus, 2001). Even further muddying the picture, prominent economic geographers refer (with an ironic tone) to all peripheral, post-industrial, and lagging places as "places that don't matter" (Rodríguez-Pose, 2018). So, how are we to understand peripheries better?

Whilst better defining and interrogating the concept of peripheries and how they are used within the literature is a huge task, we slice off some small pieces of the cake for the purposes of this paper. We do this

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through a thorough consideration of the diverse and competing understandings of terms used to discuss peripheries. Then, we illustrate some of the complexities and tensions we consider when dealing with peripheries. Finally, we discuss a broader perspective that goes beyond our own experiences of researching peripheries in the Nordics, in order to unpack the issue of geographic context and specificity. Although our insights are derived mainly from sparsely populated areas with strong contrasts between growing urban centres and declining hinterlands, we expand our discussion to consider the wider relevance in relation to other "types" of peripheries such as rural, post-industrial, or intra-metropolitan peripheries, and what would be considered weaker regions in general. Whilst we are walking on a primarily theoretical or conceptual plane in this paper, it is important to keep at the forefront of our minds that the issues facing contemporary peripheries are real and urgent, not least out-migration, and declining or stagnating economies in the face of global economic shifts (Nuur and Laestadius, 2010; Isaksen, 2015). It is also not clear, from a policy perspective, to what extent 'generic' regional development approaches may be fit for purpose in peripheral regions, or if other, bespoke, approaches would be required (Morgan, 2017).

Building on the work of Hayter et al. (2003) on peripheral regions, we intend to show the need to take a broader stance, integrating four pertinent dimensions of peripheral regions: economic, environmental, cultural, and geo-political. Using such inclusive, multi-dimensional approaches to investigating peripheries can help us answer pertinent questions facing economic geographers of the periphery. When setting out to elaborate on the peripheries context, we created a matrix of research questions covering the key issues raised by the four-pillared framework. Although specifically emerging from our knowledge of Swedish northern peripheries, these questions could be relevant in moving forwards in the systematic exploration of peripheries in general. This paper aims to raise important debates of our collective scholarly thinking about peripheries in more interconnected and nuanced ways. We argue that we can start to transition towards a more holistic and norm-critical mode of researching the periphery, but to do so we need these critical and challenging perspectives and tools at our disposal. This is where our problem framework comes in: it underlines gaps in our thinking about peripheries and suggests clear pathways to addressing these gaps and improving our treatment of peripheries in theoretical work, which in turn can better influence and inform policy and practice to aid in the development of these areas going forwards.

2. Theoretical foundations: peripheries within economic geography

The relationship between core and periphery has emerged as one of the founding paradigms of modern economic geography (Fujita and Thisse, 2009). Although inherently a geographical concept (Crone, 2012), 'peripherality' has blossomed into a go-to spatial theory coupling features of the geographical space with economic development processes (Anderson, 2000). The core-periphery paradigm has been constructed as an opposition in terms of development potential between central places, such as global cities and national metropolises, and 'peripheries', consisting of a motley crew of less densely populated places, such as mountain areas, rural areas, islands and coastal areas, or sparsely populated areas (Lundmark, 2005; Carter and Ounanian, 2019; Bürgin and Mayer, 2020). Hence, the periphery corresponds to multiform geographies in both their physical and human features. However, the two major issues around which the core-periphery paradigm is constructed are economic agglomeration and power asymmetries. These two concepts form the basis of our theoretical foundations in this paper: they are strongly intertwined, but they originally stem from different lines of argumentation, and their co-occurrence reinforces the polarisation of the economic space, globally, but also regionally.

Providing a concise account of how the periphery concept has been incorporated into the heart of economic geography is challenging due to the sheer volume of sources addressing this issue. In short, there is a preoccupation with the mechanisms and processes pertaining to the observed tendency of economic activities to concentrate in certain locations at different geographical scales (Garretsen and Martin 2010). These agglomeration economies (i.e., the benefits derived by actors from co-localisation) can be characterised as deriving from either urbanisation economies, based on the proximity to a large and diverse pool of potential suppliers, customers and competitors, and localisation economies, based on the proximity to firms evolving within similar or related industries (Malmberg and Maskell 2002; Simmie 2006).

The fundamental notion in these spatial theories is *distance* and its role in inducing or obstructing economic development. In this sense, cores and peripheries are given a physical status as being close-to or far-away. Finally, in a reverse thinking, the steady depopulation trends that have affected many peripheral places have been acquainted, often in a simplistic fashion, with markers of 'decline' in socio-economic development processes which are meanwhile often not grounded in the locals' lived perception of the vitality of these places (Peters et al., 2018). Helpfully, Kühn (2015) differentiates between the concepts of peripheries and peripheralization. He explains that whilst the periphery is a geographic notion about distance to the core, ""peripheralization" describes the production of peripheries through social relations and their spatial implications" (Kühn, 2015, p.367).

Linked to this concept of peripheralization, which according to Kühn (2015) includes theories of economic polarisation, social inequality and political marginalisation, the second stream of discourses in the core-periphery paradigm deals with asymmetric power relations (Dicken 2007) between core regions and peripheral regions. We can trace this line of thinking even back as far as Immanuel Kant and his "world systems theory" which assigned core-periphery dynamics as per power asymmetries as a world view. A stream of literature has emerged from globalisation studies that sees metropolitan regions and transnational corporations as dominant centres of command and control of the global economy (Sassen 1991; Dicken 2007). Being devoid of such endowments, the periphery is understood as "subordinate to the core" (Anderson 2000:92) and peripherality becomes associated with a certain condition of being left out at the margins of the globalized communication system and the perception of being functionally distant from decision-making centres (Anderson 2000). Actors in peripheral regions are deemed to have little leverage on the decision-making and governance processes that affect their own development (Copus 2001). The perceived high dependency of peripheral places on external agents (Carson et al., 2011; Watkins, 2009), controlling the global value-chain and markets for resource commodities, has perpetuated this image of 'helplessness', as shaped from the outside and with the local being somewhat subsumed (Dubois and Carson, 2016). The consideration of power asymmetries takes the peripheries discussion into other fields such as political science and policy studies, leaving us at the borderland between economic geography and multiple disciplinary perspectives. However, our primary aim is to push forward theorising from an economic geography perspective, since this is our disciplinary home, and engaging economic geographers in critically reflecting over our collegial role in *shaping peripheries*.

Important theoretical contributions in economic geography have proved to be especially significant for a sounder understanding of peripheries, such as proximity dynamics (Boschma 2005; Torre and Rallet, 2005, Lagendijk and Lorentzen, 2007), collaboration (Grillitsch and Nilsson, 2015) or purposeful connections and extra regional linkages (Fitjar Rune and Andrés, 2017). In particular, given the geographical focus of our work as Sweden-based researchers, we have been influenced in our thinking by empirical work conducted in a Nordic setting characterised by large distances and sparse populations but also a relatively strong economic scenario and supportive welfare system when viewed through an internationally comparative lens (e.g. Nuur and Laestadius, 2010; Grillitsch and Nilsson, 2015; Dubois and Carson, 2016).

In spite of these academic contributions, we still lack a deep

understanding of the diversity of socio-economic development pathways observed in peripheries. A recurring criticism within the so-called "new economic geography", for instance, has been its inability to "capture the full range of factors and forces that help shape the economic landscape, particularly since some of these factors are social, institutional and cultural in nature" (Garretsen and Martin 2010:129). Because the main question that the core-periphery paradigm aims at explaining is why cities emerge and grow, it leaves aside the complexity of territorial development processes occurring in non-metropolitan settings, and simplistically defines their role as mere provider of natural commodities essential to wider industrial processes. Hence, the shift in discourse from 'periphery' to 'diversity' is arguably significant in order to reframe contemporary understandings of socio-economic development taking place at the geographical margins. This is all the more timely as the periphery itself changes, and especially as many rural regions show an evolution towards a socio-economic structure that is increasingly similar to the one of urban areas, i.e. composed of a diverse range of actors, sectors and interests, albeit on a smaller scale. How to address this complexity can only be achieved by a careful reconsideration of what makes peripheral places specific.

However, in spite of this rich body of work from the economic geography perspective pertaining to peripheries, there are still a number of gaps in our collective theorization and understanding, which we suggest needs urgent attention. In the next part of this paper we highlight these gaps or confusions we perceive in the current body of work, and provide some insights as to how they might be addressed going forwards.

3. Four 'problems' about the periphery

3.1. Problem 1: fuzzy language

The first and perhaps most obvious problem in peripheries research is that of confusing terminology: we lack a clear definition and consistent language to use. This confusion is due to the evasive nature of what 'being peripheral' entails at the different spatial scales and development processes considered. Alternate terms include remote, non-core, lagging, rural, or marginal. All with different meanings, but which can be used in the literature to refer to various features that partially characterise non-core regions. This can lead to confusions, overlaps, and cross-talking. The policy sphere has met the 'periphery issue' with similar bewilderment to the academic world, balancing between developing specific territorial policies for these places and 'periphery-proofing' existing sectoral and cohesion policies. It has become a common place to acknowledge the inadequacy and inefficiency of the "one-size-fits-all" mantra (Tödtling and Trippl, 2005) to address this issue in spatial planning and regional policy. What's more, research conducted on recent innovation policy efforts in diverse regional settings has found profound issues when concepts and blueprints are rolled out universally, especially in weaker and peripheral regions that may have different resources and institutional settings at their disposal compared to their metropolitan counterparts, the discussion around applying smart specialisation in peripheries being a good case in point (Lundström and Mäenpää, 2017; Kroll, 2019; Kristensen et al., 2018).

The first notion, and the main interest of our work, peripherality, can be characterised as a kind of *macro*-remoteness, based on the long physical distances and travel times from large agglomerations and dominant economic centres on the national (e.g., Stockholm, Gothenburg or Malmö) and continental (e.g., London, Paris or Frankfurt) scales. Low accessibility to large markets is here believed to be a structural disadvantage as it increases transportation costs, inherently restraining the competitiveness of distant actors. This has led to the development of multiple gravitational models measuring accessibility by weighting distance between places and mass, in demographic or economic (i.e. GDP) terms (Keeble et al., 1982; Spiekermann and Wegener, 1996; Vickerman et al., 1999). This perspective became widely popular in European policy circles as it provided a quantitative measurement, and thus a seemingly objective evidence, on the extent of peripherality as a geographical phenomenon.

The second term we consider, sparsity, corresponds to a certain demographic reality 'on the ground' (Dubois and Roto, 2013), that could be defined as *micro*-remoteness and linked to a local, daily context for accessibility (i.e., commuting catchment areas) and access to personal and business services. Indeed, sparsity entails a combination of low population number and dispersed settlement patterns leading to specific challenges for the development of 'cost-efficient' economic activities and public service provision (Gløersen et al., 2006). Gløersen et al. (2006) continue by acknowledging that the latter is critical for understanding local economic development in those areas, as low market potential and limited labour-market resources act as significant constraints on economic development. Sparsely populated areas in Europe are characterized as places with *low* population potential, which can be found in the northern and eastern areas of the Nordic countries, northern Scotland and Central Spain (Dubois and Roto, 2013). Other terms that crop up include rural, marginal, lagging, non-core. Whilst the length limitation of journal publications does not allow us to unpack each of these terms in detail, and as researchers of peripheral regions in the Nordic area, our main focus is on the term peripheral and the concept of sparsity to describe the sorts of regions we devote our attention to (Dubois et al., 2020; Lundmark and Pugh, 2020).

In reviewing innovation studies about the periphery, Eder (2019) found that scholars provided little explanation or definition as to why inquired regions are considered peripheral. A range of economic, geographical and demographic factors are invoked in order to categorise a case as peripheral (Melançon and Doloreux, 2013; Dubois, 2015; Mayer et al., 2016; Eder, 2019). Dubois and Roto (2013), following up on the work of Gløersen et al. (2006), laid out an operational definition of peripherality, a combination of remoteness from urban centres and sparse and scattered settlement patterns, leading to the identification and delineation of areas with low population potential, i.e. less than 100 000 inhabitants within a 45-min car-drive. The latter delineation allowed to grasp the duality of peripherality as a socio-spatial phenomenon related to the two main 'structural handicaps' traditionally raised by economic geographers, i.e. as combined exogenous (far from main markets to be competitive) and endogenous (difficulty to maintain cost-efficient public service provision locally) factors.

Peripheral regions are also linked to certain topographical features, such as mountains or islands which makes these places dependent on few transport connections or corridors to access other parts of the territory. Topography makes these places more vulnerable because they are essentially dependent on few connectivity linkages. A good example of these discussions occur in the case of "mountainous regions", which suffer from more generic peripheral region problems of outmigration, economic shifts, and accessibility and communications issues, although in some cases the conflation of mountainous and peripheral regions can lead to some confusion and false equation since in some countries such regions can indeed be very close to major core urban areas, such as Switzerland and Austria (e.g. Bürgin and Mayer, 2020), versus the remote peripheries we study in the Nordics, which can of course also be mountainous (Lundmark, 2005). This sticky issue of relative peripherality is further explored below.

In order to solve this problem about this multitude of terminology and overlapping concepts, the obvious solution is that researchers are more precise about the definitions and categorisations they are using. A clear use of language is perhaps easy to recommend but harder to actually undertake in practice, given the general fuzziness of the field that we discuss here. In that sense it is a chicken and egg scenario of how to impose clarity or order on a chaotic and fuzzy field. This fuzzy problem is not unique to work on peripheries in economic geography, and Markusen (2003) pointed out that the regional studies discipline as a whole is suffering from fuzzy concepts, which has yet to be resolved. Examples of clarity in terminology include, for example, the use of "economic periphery" to differentiate from other elements of

peripherality within an economic geography approach (Jones and Munday, 2020). Finally, the fuzziness surrounding the terminology reflects the large diversity of peripheral spaces and the difficulty in approaching them, both conceptually and empirically, using a unified and uniform spatial glossary.

3.2. Problem 2: "bad talking" peripheries

Peripheries often fall prey to a simplifying and negative discourse. They are often "othered" by discourses produced and consumed primarily in the core (Eriksson, 2010; Stenbacka, 2011). As Anderson (2000) explains: peripheries are often framed as under-performing economically, specialized in commodity extraction, located far away from the main decision centres, decoupled from the main contemporary processes of development, and subordinate to the core. Stenbacka agrees with this somewhat negative construction, which she has identified as the "othering" of such places by the urban core-based media (2011). This issue runs far deeper than academic and journalistic publishing. Author and cultural commentator, Margaret Atwood expresses our complex and often problematic relationship with peripheries in her exploration of our imagined geographies and cultural and literary constructions of the "Malevolent North" (1996). In *"Strange Things"*, she highlights the constructions of the Northern periphery as strange, other, feminine, and conquered (Atwood, 1996).

Recently, a heated debate within economic geography has been held around Rodríguez-Pose (2018) characterisation of European "places that don't matter". This debate particularly references the return to nationalistic and separatist values we see resurging in regions around Europe that feel 'left behind'. In their recent study on populism and the 'revenge of the places that don't matter', Dijkstra et al. (2020) showed the importance, relatively speaking, of anti-establishment and anti-European votes in recent national elections in non-core regions of Europe's most developed countries, including the UK, France and Sweden. The increased marginalisation of these communities and the perceived decommitment of the state and public services in those places triggered a rejection of the authority of the supposed command-and-control actors, as a way to 'take back' control over their development trajectory. At least symbolically, and in monetary terms, these places are often the ones that benefit the most from EU cohesion policies. Abreu and Öner (2020) found, in the UK, that the Brexit vote was regionally variable, especially in terms of people living in regions with high levels of anti-immigration sentiment voting to leave the EU. These are not necessarily all rural or peripheral areas, though, and are often represented by urban and semi-urban post-industrial areas such as the North East of England and the South Wales Valleys. Considering these political dynamics, work from the USA has pointed to a strong rural-urban divide, with small towns and rural areas being seen as hotspots of populist anger, and cities presented via multicultural coexistence (Rossi, 2018; Scoones et al., 2018). In a sense, rural and peripheral areas are being "blamed" for the rise of nationalism and this is a popular rhetoric, which of course has some elements of truth. But as Rossi (2018) explains, at least in Italy, this dynamic also has urban metropolitan roots, challenging the one-dimensional characterisation of cities as progressive and rural areas as backwards.

Taking the counter-point to these discourses of peripheries as problems, researchers have found a number of ways in which the characteristics of peripherality can be leveraged, and that innovation and creativity can indeed flourish in peripheral and remote areas. For instance, peripheral areas can be sources and sites of great creativity (Hautala, 2015; Grabher, 2018). Innovation-wise, firms in peripheral areas can make up for a lack of proximity effects by developing "global pipelines" with actors outside of the region or country (Bathelt et al., 2004; Eder, 2019). External links are a means via which firms can compensate for a lacking regional innovation system (Dubois, 2015, 2016), for instance employing foreign workers and international partners in order to obtain access to international markets (Solheim, 2016). Regional innovation systems can indeed be built within peripheral regions themselves, Zukauskaite et al. (2017) argue. These innovation systems and networks might look quite different, though, from what we see in the core (Copus &Skuras, 2006; Huggins and Johnston, 2009; McKitterick et al., 2016). Peripheral regions can benefit from new forms of independent production, digital technologies and mobilities which endow individuals with more agency and freedom over where they live and work, somewhat stemming or reversing one-directional flows from the periphery to the core (Brydges and Hracs, 2019).

Indeed, the peripheral regions of northern Europe, both the most urbanised and remote rural ones, have shown regional development trajectories that are above the ones of the average European region in spite of belonging to small national economies which are geographically distant from the global metropolitan areas of the continent, such as Paris, Frankfurt or London (Gløersen et al., 2006). Hence, geographical remoteness itself is not an explanatory factor for good or bad regional development. As Grillitsch et al. (2021) argue, we need to open up the "black box" of regional development and understand the more complex scenario than a simple growth-decline binary. The richness in natural resources of many peripheral regions, including those in the Nordics ranging from the oil and gas in Norway, to the minerals and forests in Finland and Sweden, provide them with economic resources, and future growth potentials, but also have tend to lead to extractive core-periphery relations over history. As such, a rich resource endowment is something of a double-edged sword for peripheral regions, and an open question is whether they can see a retention of the dividends of their resources in the future or whether previous trends of resource extraction to the core continue. There are strong implications of social justice here when we consider the fact that dividends from these rich resources have had marginal flows back to the indigenous peoples who have long lived on and cared for these lands.

In terms of a way forwards, building on these periphery strengths and unique capabilities is key, rather than simply viewing such areas as lacking or deficient in comparison with the core. Also, demonising or moralizing to the populations of such regions is not helpful, and contributes to "othering" them further. A more positive discourse around peripheral regions is required, both on behalf of academics, policymakers, and media actors. More work is needed that shows what is special, unique and different about peripheries. In economic geography terms, we can build further on the work of researchers who have shown positive economic aspects for firms and entrepreneurs being positioned within peripheral regions. For instance, as Hautala (2015) shows, creativity can happen in peripheries in the way it might not in the core, and they can be very attractive locations for creative workers to be located. As Fitjar Rune and Andrés (2017) find, the intangible positive effects of agglomeration and co-location may have been overhyped throughout the history of the economic geography field, and in fact firms that are much less proximate to other actors in the innovation system can experience far fewer negative effects of this than we might assume. Similarly, Grillitsch & Nilsson (2015) find that firms in peripheries are able to compensate for a lack of localized knowledge spillovers through more international and distant collaborations. However, these contributions go somewhat against the grain in economic geography work, which usually assumes economic problems and negative effects would automatically correlate with peripherality. Clearly, we need more empirical research into different aspects of economic development and functions to establish more clearly what is actually going on in peripheral economies and firms. A recent example of such efforts to "open the black box" of regional development and provide a more nuanced perspective on this phenomenon can be found in Grillitsch et al. (2021).

3.3. Problem 3: 'It's all relative' in peripheries

The core-periphery imagery has anchored, in spatial planning and economic thinking, the idea that one can objectively delineate and characterise peripheries as geographical objects. Here, the scholarly

debates on the periphery would gain in depth and embeddedness in the wider geography literature by addressing more clearly some of the arguments propounded by Harvey (2006), about the absolute, relative and relational underpinnings of space. Similarly, going into the human geography canon, the work of Massey on the way in which space and place are imagined and constructed is surely key when we think about peripheries (Massey, 1999; Christophers et al., 2018; Werner et al., 2018). If the periphery is absolute, then it needs to be defined, approached and, subsequently, studied on the basis of its intrinsic characteristics, independent from the core. However, the periphery is also relative as the processes that shape it are constantly compared and benchmarked with the ones taking place in better-known places, i.e. urban spaces. Finally, the periphery is a relational space, not the least in its role as global commodity supplier (Dubois and Carson, 2016), insofar as its actors are embedded within extensive networks of relations extending beyond the periphery's geographical boundaries. It is also constructed both by those within and without, sometimes in a less than positive manner as explained above. The far too literal translation of the 'othering' mantra in geographical terms leads to a misunderstanding of the complex processes of territorial polarisation that can be witnessed at different spatial scales. As much as there are dynamic cities in or nearby remote rural areas, there are also pockets of marginalisation right in the larger metropolitan areas of the continent (Governa and Saccomani, 2004; Holston, 2009). To think of socioeconomic processes by matching with certain types of geographies is evidently a scholarly bias of our human geography community. Because geographers are often deeply engaged with actors from their study object, they tend to idealize certain geographies over others. Hess (2004), for instance, pointed out the preoccupation with the 'local' scale as the privileged site for embedded, trustful socio-economic relations in the literature, often overlooking the fact that strong relations can indeed emerge between distant actors. In the case of peripheries, this conflation has led to associating peripheries with poor economic performance and backwardness, which has limited our ability to think of peripheries from other unchartered perspectives.

Another problem we can see with the conceptualisation of peripheries to date is that it is too static and too simplistically approached as a 'stand-off' between the core and a more distant place. There is little appreciation of how and why areas become peripheral, or alternately transition away from this characterisation. This discussion is pertinent if we are to think about cores within the peripheries: at which point do we "declassify" the large towns within peripheral regions as peripheries and view them instead as cores. In Sweden, this is an important discussion at the current time as the coastal towns in the North of the country continue to grow, inhabiting a somewhat awkward in-between space where they are traditionally viewed as remote and peripheral, but today are centres of agglomeration processes. Processes of demographic thinning out and micro-urbanisation often take place simultaneously and within close proximity. Cities such as Umeå, Luleå or Östersund, all endowed with universities, have been growing in population and are increasingly seen as the economic development hubs grounded in the knowledge economy for the entire region (Dubois and Carson, 2016). At the same time, micro-urbanisation processes tend to benefit towns or municipal capitals which contribute to rural restructuring, whereas the smallest settlements can miss out in this dynamic (Carson et al. 2016, 2020). Depopulation in smaller remote communities may cause 'holes' in the local social capital, leaving these places with a threat of social dislocation. Contemporary peripheral economies are thus constantly in a state of flux, characterised by what Torre and Wallet (2014:666) term as "a loss of knowledge capital and know-how and of population, as well as by a process through which a balance between farming and other, tertiary or secondary activities can be reached".

This multiscalar polarisation introduces the need for renewed approaches to territorial governance practices and regional development policies. New core-periphery dynamics emerge in fractal-like shapes across the territory. A main takeaway from this is that continued urbanisation will eventually lead to the emergence of new peripheries in the form of shrinking small industrial towns or rural communities, but also including more socio-culturally marginalised suburbs within enlarging metropolitan areas. Public policies, both sectoral and place-based, need to be better equipped to acknowledge this complexity and the interlocked nature of the processes of spatial marginalisation. Hence, these policies need to address the territorial decoupling between places belonging to the same socio-economic space.

A solution to this polarised way of thinking, we suggest, is to incorporate two elements at the heart of our thinking about peripheries. Firstly, we should attach lenses which allow us to appreciate cores and peripheries within cores and peripheries. It is quite well established that there is an urban periphery, imbued with deep and profound inequalities, even within the world's largest and most dense cities (e.g. Governa and Saccomani, 2004; Holston, 2009). However, our appreciation of the cores within peripheries is much less advanced, whilst empirical evidence from countries like Sweden shows a huge difference between the flourishing coastal towns with high tech industries and growing young student populations, and the declining inland areas (e.g. Carson et al., 2021). Appreciating these nuances within peripheries, and unpacking internal core-periphery dynamics is key if we are to avoid replicating broader trends of periphery exclusion and generalization we have seen before. In practical terms, deep peripheries, as we can call the rural inland hinterlands of areas of Northern Sweden for example, are facing very different challenges to the growing towns and cities along the coast with their universities, youthful populations, and high tech firms. The growth of one side of the periphery should not be at the expense of the other.

3.4. *Problem 4: unequal peripheries - gendered, raced, classed dimensions of periphery*

Socio-economic development in peripheral regions is asymmetric, as it tends to be a highly gendered, raced, and classed issue, and if we think about peripherality in terms of people as well as places, there are those within peripheral locations who are further ostracised overlooked, or peripheralized such as women, people of colour, indigenous communities, the elderly, the disabled, and the poor (Stenbacka 2007; 2011; Ude'n, 2008; Forsberg and Stenbacka, 2013; Forsberg and Lindgren, 2015; Pettersson and Lindberg, 2013; Grubbström et al., 2014). To conceptualise some sort of homogeneity around the people who inhabit peripheral regions would be to erase the complexity of the power dynamics existing within societies therein.

This is, clearly, not an issue that is related only to peripheries, but to all places and societies. However, we find this discussion has not yet been sufficiently integrated in scholarly economic geography debates about peripheries, which is surprising given the strongly regional dynamics of gender orders and contracts and out-migration in the Nordics, international in-migration and entrepreneurship, and presence of indigenous communities in peripheral regions (Forsberg and Stenbacka, 2013; Osterud, 2014; Wiest, 2016). In rural studies on the Northern Swedish context, the issue of cosmopolitanism has been investigated and debated in relation to the integration of non-European migrants (Arora-Jonsson, 2017; Arora-Jonsson and Larsson, 2021). We find previous work on peripheries has taken a fairly homogenising approach, with a lack of nuance around the complex social structures of inequalities that exist, especially when it comes to the treatment of indigenous populations in economic geography, which is particularly pertinent for our own research site of Northern Sweden (e.g. Ude'n, 2008; Medby, 2019b).

Economic geography has yet to consistently address this issue of inclusivity in economic development processes: if sections of the population are excluded from innovation and entrepreneurship activity then a region will not meet its full potential nor achieve economic sustainability. This situation is likely to have wide variance between cores and peripheries within peripheral regions, with urban centres experiencing growth in service and care sectors (with greater opportunities for

women and migrants) whilst in hinterland areas employment in traditional industries and resource extraction is in decline, yet still dominant.

We believe that the study of peripherality in economic geography would gain in credibility by invoking a gender perspective, drawing on work by researchers exploring issues of innovation, regional policy, and entrepreneurship from a gender or feminist perspective (Ude'n, 2008; Forsberg and Stenbacka, 2013; Forsberg and Lindgren, 2015; Pettersson and Lindberg, 2013). Achieving sustainable economic development in the periphery necessitates embracing a more inclusive mode of innovation policy (cf. Pettersson and Lindberg, 2013). Whilst there have been a number of seminal contributions by feminist economic geographers, work on regional economic development, innovation, and regional economic geography more generally has lacked a treatment of gender. Some efforts have been made to incorporate gender dimensions into these topics (Blake and Hanson, 2005; Agnete Alsos et al., 2013), but ideas around agglomeration and proximity have a significant blind spot. Research on entrepreneurship has more discussion of economic processes as gendered (Minniti, 2009), and how gender is embedded in processes, meanings and experiences (Agnete Alsos et al., 2013). Innovation studies lack an analysis of who participates in innovation activity (Fagerberg et al., 2005; Martin, 2016). An important exception is the work of Pettersson and Lindberg (2013). Within rural studies in Sweden, economic dimensions of gender have been considered (Stenbacka, 2007, 2011; Forsberg and Stenbacka, 2013; Grubbström et al., 2014). Building on work of this nature, plus adding in an intersectional perspective to also explore issues around race, age, class, disability, sexuality etc. will be key in reaching nuanced understandings of peripheral regions going forwards. Researchers in Sweden have already made great strides in these regards (as discussed here) but there are still huge gaps in our intersectional perspectives on peripheries, and as much of the work is published in Swedish language (e.g. work on elderly populations in peripheral areas by Bygdell, 2014) it is struggling to reach the wider international audience of researchers of peripheries.

4. Discussion: the periphery as the (new) norm

Whilst being relatively small in sheer numbers, the community of peripherality scholars rests on a highly internationalised network of engaged individuals, for the most part, and research institutions, in some cases. Although the study of peripheries is indeed a fringe issue for economic geographers in their respective national contexts, it has nonetheless triggered lively scholarly debates, for example in the Nordics, where the authors of this paper are based.

There is an enhanced realisation in many nations that peripheralization has become the new norm in the exploration of human geographies, as much as urbanisation, but not yet on an equal footing. Even in more densely populated nations of Europe, such as the UK (e.g. Copus, 2001; Copus and Skuras, 2006; Atterton, 2007; Bosworth and Atterton, 2012), Germany (e.g. Graffenberger, 2019; Graffenberger and Vonnahme, 2019; Wardenburg and Brenner, 2020) or France (e.g. Charmes, 2009; Gintrac and Mekdjian, 2014), the issue of peripheralization has progressively gained momentum in rural development issues and induced a certain theoretical *rapprochement* between the fields of rural studies and human geographies, not least our sub-discipline of economic geography. These international developments in the field prove that the concept of periphery is not only pertinent to those such as ourselves working in sparsely populated northern contexts, but also encompasses a wide coalition of "non-core" and "less-favoured" regions including mountain regions, post-industrial regions, and weaker regions (Lundmark, 2005; Lang, 2012; Parrott et al., 2018; Carter and Ounanian, 2019; Bürgin and Mayer, 2020). Contemporary processes of spatial polarisation have, to some extent, normalized the co-existence of territorial extremes, from highly clustered to widely scattered milieux, on all spatial scales. In that respect, we believe that economic geography needs to better cater for the study of these extremes, and understand the interdependencies arising from these geographical dichotomies.

As a matter of consequence, we identify three key issues resulting from this mainstreaming (albeit limited) of the issue of peripherality in our field. The first one is endogenous as it relates to the observation of spatial polarisation in the majority, if not all, of countries of the Global North, leading to the formation of new 'pockets' of marginalised communities in both urban and rural regions, but also the concentration of rural population in smaller municipal centres or larger medium-sized towns, often endowed with educational infrastructure. Places left outside of this multiscalar clustering process, even within peripheral areas, lose out on territorial development opportunities, eventually leading to divestment and degradation of public services for the remaining population, thus reinforcing the out-migration cycle (Lundmark and Pugh, 2020). However, this negative conceptualisation of the cannibalising or "sponging" effects of larger towns and cities is not always clear, and evidence from Australia has called the universality of such processes into question (Alexander and Mercer, 2007; Argent et al., 2008). Either way, peripherality, which traditionally tended to epitomize territorial divides and oppositions within the nation-state, has now

Table 1
Periphery "Problems" and their Solutions.

"Problem"	Manifestation	Solution
Fuzzy Language	- Overlapping terms often used interchangeably, confusing for readers and practitioners. - Lack of definitions provided. - Different communities of scholars favouring different terms.	- Precise definitions and use of language. - Exemplars in: Dubois and Roto (2013) specifying distances and scales of periphery, and Jones and Munday (2020) specifying "economic periphery" when dealing with economic (as opposed to political, cultural, social) issues.
Bad Talking Peripheries	- An over-supply of critical or negative conceptualisations of peripheries, in socio-cultural terms and in popular culture and press as well as academic work. - In EG, this manifests as an assumption that peripheries experience negative economic outcomes due to lack of agglomeration economics.	- Researchers of peripheral economies have found the opposite to be true- that there are positive economic outcomes associated with peripheral location and that firms and individuals can compensate for lack of agglomeration and knowledge spillovers (Hautala, 2015; Fitjar Rune and Andrés, 2017; Grillitsch and Nilsson, 2015). - We need more investigation of "positive peripheries".
Polarisation of Peripheries	- Current conceptualisations of peripheries are static, and do not appreciate margainalization and polarisation that exists within peripheries. - Peripheries are generalized and differences between cores and peripheries within peripheries are under explored.	- In line with the appreciate of peripheries within urban cores (e.g: Governa and Saccomani, 2004; Holston, 2009) we need to explore cores and peripheries within peripheries. - The challenges facing rural inland hinterlands in Sweden are very different to those affecting the growing coastal cities with high tech companies, universities, growing populations.
Unequal peripheries	- Within peripheries vast socio-economic inequalities exist. As with economic development in cores, this is a classed, raced, gendered, abled phenomenon. - Economic geography currently deals very poorly with this inequality, and requires more integration with intersectional perspectives to understand economic development.	- Building on the work of Swedish scholars who are exploring issues of class, race, gender, disability in rural and peripheral regions (Forsberg and Stenbacka, 2013; Forsberg and Lindgren, 2015; Pettersson and Lindberg, 2013; Ude'n, 2008). - There is a profound need for more research in this vein. - Intersectional frames can help us appreciate these overlapping issues of inequality.

become increasingly encroached at the regional scale, raising new expectations for *inclusive* regional development policies that regional practitioners may need support to deal with.

The second major reason for this renaissance comes from 'old' peripheries' intrinsic geographical position at the frontiers of nation-states, meaning by the same token that they often function as a geopolitical interface between neighbouring nations. The increase of migration movements and the effects of climate change, in addition to more sudden, high-impact episodes such as the recent Covid-crisis, will likely redefine the place of peripheries at the centre of world geopolitics. Regarding the latter, the Arctic can be seen as a case in point (Bruun and Medby, 2014; Medby, 2019a). Opportunities for natural resource extraction, which epitomizes the northern development model (Dubois and Carson, 2016), has resulted in the repositioning of this contested region at the centre of the checkerboard and the re-scaling of the territorial governance approaches in and for sparsely populated areas, a case in point being the European Union's pursuit of an Arctic policy.

The final issue we discuss here relates to the democratic shift epitomized by the 'revenge of places that do not matter' metaphor (Rodríguez-Pose, 2018; Dijkstra et al., 2020). Through recent elections, marginalised, neglected places and groups have regained a certain power leverage towards the core, by rejecting what is perceived as an internationalist agenda, and 'reclaiming' their democratic voice, called the "geography of discontent" (Dijkstra et al., 2020). This has thrown up in the air our previously considered status quo of power asymmetries between the core and periphery, and recent events such as the Brexit vote, the *gilet jaunes* movement in France (e.g. Depraz, 2019), and the rapid rise of right-wing parties in the Nordics are tangible illustrations of traditional power asymmetries being challenged in some ways.

5. Conclusion

In writing this paper, we had the somewhat ambitious aim of identifying the "problems" in our theorising of peripheries within economic geography to date, and proposing some solutions of how these could be addressed going forwards. As such, our paper is predominantly a theoretical contribution which proposes a future research agenda, centred around addressing and nuancing the problems that we outline above. It should be re-stated that our relationship with theory and previous research very much gets tinted by our research context of the Nordics, and we understand that the problems and solutions might look different to researchers coming from a different context.

Firstly, Table 1 summarises these problems with the periphery concept in a succinct manner.

Based on our discussions following on from this problem identification exercise, we develop a multi-faceted research agenda to push research within economic geography on the periphery forwards in more critical, nuanced, and interesting directions (Table 2). We feel, at this point in time, given the various challenges our societies are facing, those of us interested in researching peripheries require a structure and guidance for better theorising and conceptualisation of peripheries in a way that will guide our research in new directions, building on but going beyond the work that has been done in the past, which we reviewed here.

Theoretically, increasing our understanding of these enigmatic and under-explored peripheral regions, and establishing an integrated and space-sensitive theory of peripherality and sustainable economic development is required. As we explain above, the implications of a theoretical under-development can trickle into policy and practice, and it is partly our responsibility to arm practitioners and planners with the right concepts, tools and knowledge to successfully shape resilient and sustainable peripheral economies going forwards. We argue that in order to do this successfully, a broad conceptual framework appreciating environmental, cultural, and geo-political dimensions as well as the purely economic one is of value.

If we are to truly unpack core-periphery dynamics within peripheral

Table 2
Theoretical framework to research peripheries.

Theme	Economy	Environment	Socio-Cultural	Governance/Political
Research Questions	What is the nature of working life in peripheral regions, especially for women and ethnic minorities and indigenous populations? Do peripheral firms and entrepreneurs develop alternative strategies to those in the core? What benefits accrue from being located in the periphery, and what constraints accrue from being located in the periphery and how might these be overcome? How can traditional industries that have long been located in the periphery and have a rich heritage there be supported to thrive or survive in the contemporary economy?	To what extent is the contemporary economic geography of peripheral regions dominated by resource extraction industries, and how do these interact or co-exist (or not as the case may be) with other environmental and socio-cultural activities? What directions in the sustainable and green economy can we see emerging in peripheral areas and how can these be supported to grow in the future? How can we better integrate environmental concerns and sustainable development into regional economic policy for peripheries?	How can rural indigenous and/or female entrepreneurs be better supported by policy and practice? What is the state of knowledge about indigenous or first nations people and their specific economic geographies, and how can we ensure an equitable spread of wealth across groups who have traditionally been at worst victims of abusive or extractive practices, or at best largely ignored from economic development efforts? How can peripheral regions develop economically in a way that protects and nourishes their distinct cultural heritages?	How can we ensure that economic dividends of resource extraction remain within peripheral regions and indigenous groups who hold historic rights over those lands? How can previous social and economic abuses be factored into contemporary approaches to economic development in peripheral regions? How is the governance of economic development in peripheral regions, and especially the global challenges being played out there such as environmental change, to be balanced with national and international interests and levels of governance? How do policymakers approach sustainable economic development and innovation in peripheral regions and which approaches have proven to be (un)successful? What would a specially developed peripheral region economic development approach look like (and is it necessary)?

regions we need to think about who has been ignored in discussions, who is receiving funding and resources from the public purse, who is thriving and who is struggling. Certainly, for sustainable economic development to occur in the periphery, a more inclusive mode of policy is necessary (cf. Pettersson and Lindberg, 2013). And if we assume policy to be theoretically founded and influenced, there is a pressing need to improve our theorising and empirical investigations to address peripheral regions in a more nuanced and holistic manner. The suggestions we provide above, in order to fill gaps we see in the current state of the art regarding peripheries in economic geography are our suggestions as to how we can move forward. Other gaps exist, and other ways exist in which to fill them, but as an early attempt to find a path forwards, we suggest the schema above could be a promising starting point for those researchers interested in beyond-economic aspects of peripheral regions.

In spite of all of the challenges facing peripheral areas in terms of economic development, it is clearly established in prior research that economic development and innovation can and indeed, do, happen in peripheral and remote regions: however the shape and character of this might be quite different from what we see in the core (e.g: Shearmur, 2011, 2015; Petrov, 2011; Davies et al., 2012; Isaksen and Karlsen, 2016; Dubois et al., 2017). The challenge is not necessarily to simply view peripherality as a "problem" to overcome, but to achieve a dynamic understanding of how the geographical (socio-cultural, environmental, political, and economic) inheritance of peripheral areas can best be leveraged through intelligent policy design, to enable development in a way that works for peripheral areas, and not only based on the replication of policy models from the core.

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