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The Continuing Advance and Retreat of Rural Settlement in the Northern Inland of Sweden

ABSTRACT In 1960, a range of leading rural geographers started a debate about population development and the "advance and retreat" of human settlement in sparsely populated rural areas, including in the inland north of Sweden. In what came to be known as the "Siljan Symposium," they identified a number of key themes in relation to migration and human mobility that were thought to determine settlement patterns in the inland north, including: internal migration and urbanisation of populations; the role of simultaneous in- and out-migration in re-shaping settlement patterns; redistribution of rural populations through return migration and international migration; and changing preferences for settlement in different northern "zones" based on the methods for exploiting natural resources for agriculture, forestry, mining and energy production. This paper re-visits the main themes from the 1960 Siljan Symposium and examines Swedish register data

to identify how migration patterns and the resulting "advance and retreat" of human settlement have changed across the inland of Västerbotten and Norrbotten. The results suggest that, while general urban-rural and regional-local settlement patterns appear to have been relatively consistent, new forms of migration (including internal, return and international) with different preferences for rural settlement emerging in different localities as a result of both persistent (mining, forestry, energy) and changing (tourism, lifestyle) values of natural resources. We also observe substantial differences in migration and urbanisation rates between Norrbotten and Västerbotten. The paper then discusses how the persistence and discontinuity of experiences over the past decades may provide insights into the potential future patterns of northern settlement.

KEYWORDS migration, urbanisation, rural settlement, sparsely populated areas, northern Sweden

Introduction

In 1960, about twenty rural geographers who had attended the 19th International Geographical Conference in the Nordic countries, travelled to Lake Siljan in Dalarna County in Sweden to discuss advance and retreat of rural settlement. The *Siljan Symposium* resulted in a 1960 special issue of *Geografiska Annaler* containing 17 papers (Enequist 1960*a*), along with a paper by Kirk Stone (1962) published two years later in the *Annals of the Association of American Geographers*. While the *Symposium* featured presentations from Scotland, the United States, Canada and Germany, eleven of the papers were specific to "northern Sweden," considered as everything north of Stockholm and away from the Bothnian coast. The southern parts of this region had begun to experience general population loss, and the *Symposium* explained this essentially as a "retreat" of population from smaller rural settlements and isolated homesteads and an "advance" of urban settlement. At the same time, the far north (the counties of Västerbotten and Norrbotten) was still experiencing general population growth, but also a "retreat" of population from some rural areas. The argument was made at the *Symposium* that the northern inland areas would, in short order, follow the experience of the southern areas with more general population loss (Norling 1960). At a broad level, this was a prescient assumption, given that the inland north began to lose population early in the 1960s, and has continued to lose population since.

The purpose of this paper is to re-visit the *Siljan Symposium* and the explanations given for the "advance and retreat" of human settlement in the inland north (see Fig. 1) to establish whether they have parallels in more

recent experiences. Much has changed in the political, economic and cultural life of the north since 1960, and while some of these changes were foretold at the *Symposium*, there is a possibility that other changes have substantially impacted settlement patterns in ways different to those described at that time. By reflecting on the dis/continuity of northern experiences across essentially a 60-year period, the paper aims to chart the progression of both theoretical and empirical understandings of the human geography of the inland north. Such understandings are not only important in the development of theory, but may have practical implications as countries like Sweden continue to debate how northern sparsely populated areas could or should be "developed."

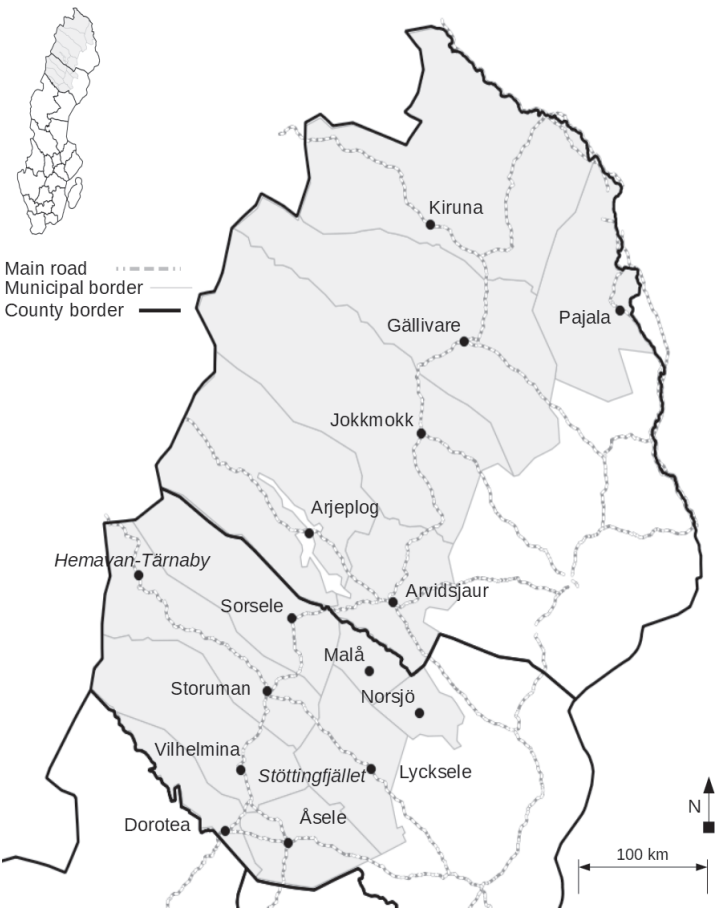

Fig. 1. The "inland north" for the purposes of this paper.

The paper commences with a summary of the key themes of the *Siljan Symposium*, with a focus on its treatment of mobility and migration as determinants of settlement patterns. Those themes are then connected to more recent literature to suggest ways in which we might expect contemporary experiences to be similar or different to those both observed and foreshadowed at the *Symposium*. The paper then empirically investigates some of the more prominent topics of agreement and contention between *Symposium* and recent scholars, using data from Statistics Sweden and Umeå University's ASTRID database (covering the period 1985–2012). The paper concludes with a discussion of how the persistence and discontinuity of experiences over the past several decades may provide insights into the patterns of northern settlement that might be experienced into the future. An important limitation of this paper is that it focuses on registered "residents," meaning that very important impacts of more temporary or "multi-locale" occupation arising from second homes, seasonal work, and tourism cannot be empirically investigated with the available data. Some analysis of how these somewhat hidden settlement patterns were treated at the *Symposium* and in more recent scholarship is provided in part to flag the continuing need for improved understandings of how they shape the north.

Key Themes from the *Siljan Symposium*

The *Symposium* described both regional and local patterns of advance and retreat. At a regional level, retreat (resulting in population loss at the municipal level) was then occurring in Dalarna and proximate counties in the more southerly parts of the "north," while regional advance continued in the more northerly areas which were still being developed for forestry, energy production, and mining, and were consequently experiencing population booms associated with the construction of infrastructure (including transport and communications) for those industries. However, even in areas of regional "advance" there were pockets of local "retreat" as small-scale agriculture became less economically viable and workforces for the dominant industries became more centralised. As a result, advance and retreat generally favoured population agglomeration in urban centres and population loss from small villages and isolated farms (Norling 1960). The pattern was more or less dramatic in different parts of the north, with the westerly mountain areas less able to support even remnant agricultural production, and the far north (Norrbotten County) more impacted by mining and hydro-power projects than the "not-so-far" north (Västerbotten County) (Enequist 1960*b*). Even in Västerbotten, however, the substantial disruption caused by hydro development to transport net-

works and accessibility was one of the major determinants of changes in settlement patterns at that time (Norling 1960).

Stone (1962) particularly investigated these regional distinctions, describing a four-zone typology of the north, collectively positioned as being on the "fringe" of Swedish society (see Fig. 2). The "inner fringe" zone (1) covered the coastal areas which were even at this time well populated and well connected both to the south of Sweden and international trading routes. Of greater interest to this paper are the three remaining zones which cover the rural inland. Stone was somewhat conflicted in his attitudes to the middle zone, which incorporates the large forest areas adjacent to the coastal settlement areas. The middle zone (2) was also susceptible to settlement retreat because of the relatively large number of people who had unsuccessfully attempted (with the assistance of government policy and relatively easy access) to develop agriculture there as a result of the patchiness of land quality. Norling (1960) identified two specific sites where total depopulation was likely—one in the mountain areas south of Tärnaby (in the outermost fringe zone), and the other in the Stöttingfjället (a small mountain range south and west of Lycksele in the middle zone). These sites were not particularly useful for agriculture, forestry, or energy development, and had not had such a successful history of settlement that historical forces or "inertia" would enable settlement to persist.

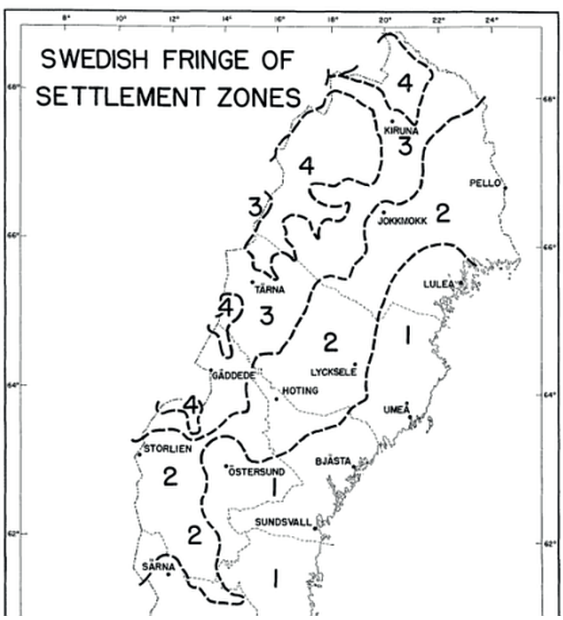

Fig. 2. Swedish "fringe" zones (northern portion) according to Stone (1962: 376).

Stone (1962) was less equivocal in his prognosis for the outer (3) and outermost fringe (4) zones. Neither, he asserted, should be considered as sites for new settlement, and, for the outermost fringe,

> [...] the problem at the present time is not the consideration of new settlement [...] rather it is to determine whether or not the present settlers should even be encouraged to stay, for any reason. (Stone 1962: 392)

The call to change settlement policy to discourage northern settlement and even encourage out-migration was echoed by Aldskogius (1960) and Eriksson (1960). Eriksson claimed that there could (and should) be a regional retreat of people in order to stimulate new economic development. A retreat of people who were not engaged in new economic activities (industrialised forestry, energy production) would open up room for the in-flow of fewer but more economically valuable people. Porenius (1960) also depicted areas experiencing population loss as nonetheless having simultaneous increases in out-migration (as expected) and in-migration (which was not expected).

While Aldskogius (1960), Eriksson (1960), and Porenius (1960) talked about the arrival of new people from outside the north to help shape new settlement patterns, Norling (1960) and Lindberg (1960) identified the significance of internal migration in localised advance and retreat of northern settlement. In Norling's (1960) analysis of migration in Västerbotten and Norrbotten from 1930 to 1960, over half of the settlers who abandoned isolated farmsteads and smaller villages remained within the same local government area, and about half of these moved to very nearby settlements. Lindberg associated this localised movement with a high degree of attachment to the region from its inhabitants. Many people, he argued, had "abandoned" houses to look for off-farm work in even distant places, but would return regularly, and would, if given the opportunity, return permanently as a matter of preference. In particular, when previous permanent inhabitants "grow old they want to settle down and live where they were born and have their small holdings" (Lindberg 1960: 266).

This coming and going of residents meant that apparently abandoned houses and even small villages were from time to time re-used either temporarily or more long term (Aldskogius 1960). Re-settlement was made possible by improved transport access and lesser need for rural properties to generate substantial income. The settlement infrastructure, however, was also valuable to the forestry industry, which used abandoned houses and settlements for temporary workers' camps. Mining and energy companies also often built their company villages and camps around abandoned settlements because of their existing infrastructure (principally roads, but also

buildings and services). Even new forms of farming enabled older settlements to be re-inhabited (Bylund 1960).

There was very little discussion about international migration to the north, with Montelius (1960) examining Finnish migration to the Dalarna region. What was interesting about Montelius' (1960) analysis, however, was the claim that international migrants like the Finns would be likely to occupy the land in different ways to Swedish locals and Swedish migrants. International migrants, according to Montelius, would likely bring with them different technologies and different ambitions for exploitation of the north's resources, and so adapt to settling in different locations. Ultimately, however, they may be driven to larger settlements as it became too expensive to provide smaller ones "with for example electricity, telephone, schools" (Montelius 1960: 293). International migrants might also be expected to cluster in particular locations to access religious institutions, repeating the experience of early Swedish settlers and explaining, in part, why some areas with poorer natural resources continued to be occupied while areas with relatively good resources were not (Bylund 1960).

Examination of changing patterns of temporary mobility, and their impact on settlement structures is beyond the scope of this paper. However, participants in the *Symposium* identified some links between permanent and temporary habitation that warrant attention. Aldskogius (1960) in particular noted that many "abandoned" houses were actually houses that were never permanently occupied, but were second or third or fourth residences used at specific times of the year as economic activity shifted from lowland to highland areas. Likewise, mining settlement in Västerbotten in particular involved mines and forges that were often quite distant from one another, with people moving between them on a regular basis. As technology improved and workforces for activities like forestry and energy generation became more specialised, seasonally present (and absent) labour become more common. Mobility has also been a characteristic of Sami settlement of the north, although this topic was not broached at the *Symposium* apart from a note by Stone (1962) that Sami people could successfully occupy the outermost fringe zone because of their mobility.

Contemporary Themes

In migration studies there has been a focus on economic activity as motive for migration (Lundholm 2007). This has tended to put agriculture in focus for settlement patterns in rural areas, however, the primacy of agriculture in shaping settlement patterns in the north has been questioned by, among others, Hedlund (2016). Hedlund claimed that manufacturing (particularly related to the forestry sector), mining, and (later) tourism and social ser-

vices, have been much more significant drivers of advance and retreat of settlements since the 1960s. Despite taking up the story at a later point in time, the essential conclusions from Hedlund's (2016) work closely resemble those from the *Symposium*. The *Symposium* argued that the transition from agriculture to other economic activities led to urbanisation, fragmented development, and the localised influences of activities such as mining, energy development and tourism. Even accounting for a lesser initial importance of agriculture as something to transition from, Hedlund's (2016) maps of the economic geography of the north conform quite neatly to those proposed by Stone (1962), Norling (1960) and other *Symposium* geographers. What has changed, however, is the positioning of the westernmost (or "outermost") fringe, with the rise of tourism as an economic activity in a very localised way in places like Hemavan and Tärnaby. Smaller resorts, however, in Kittelfjäll, Ammarnäs and other even quite proximate locations have struggled to develop (Byström & Müller 2014; Lundmark 2005).

One major change within migration and mobility studies is that more contemporary research has given more attention to lifestyle oriented motives and not only economic motives for mobility. This change in focus could be explained by three major societal developments: The general affluence of western society that has made mobility choices based not solely on economic necessity but also on lifestyle choices; post-productivism as the "new rural future" concentrating on knowledge, service and experience instead of traditional production; a general focus in society as well as in research on the environment and issues of sustainability (Almstedt *et al*. 2014). Taken together, these developments have allowed for diverse perceptions of which areas that are perceived as attractive. In tourism research, areas with abundant natural amenities have for long been in focus because of the attraction it offers to mobile populations (Moss 2006), but now this has come to include more permanent mobilities as well.

One form of tourism that is substantial is the winter car testing industry, concentrated primarily around municipalities of Arvidsjaur and Arjeplog. The industry developed from the early 1980s when car testers would come from Germany (mostly) during the winter months, and camp near frozen lakes to conduct their testing. As the industry grew, local businesses began to provide more support services (including managing the lake test beds), and visitor accommodation became primarily focused in the larger municipal centres. Exceptions such as the large hotel in the small village of Slagnäs (population c. 120) exist, but the typical pattern remains urbanisation of the permanent and seasonal workforce. Even in Slagnäs, car testing tourism has been insufficiently impactful to stimulate local residential population growth. After rapidly expanding during the 1990s and 2000s, the workforce

for the car testing industry has begun to shrink as fewer but more skilled people are needed to undertake the activities. Even some "local" (meaning Swedish owned/operated) businesses are based outside of the region and operate here just for the winter months. This pattern of maintaining local economic activity, but with fewer local residents involved (Enequist 1960*b*) has also been observed in the energy sector (Carson *et al.* 2016*a*) and mining services (Dubois & Carson 2017).

Car testing as industrial tourism has contributed to the development of more leisure based forms of tourism, including ice lake driving and the in-migration of German, Swiss and other European entrepreneurs establishing small businesses offering husky or snowmobile tours and other largely winter based experiences (Carson, Carson & Eimermann 2017). Many of these businesses are located outside of the larger towns and villages, as the business owners look not just to provide a "real" northern experience to their customers, but themselves seek isolation and wilderness for both their working (winter) and recreational (summer) seasons. These migrants echo the experiences of the Finnish migrants observed by Montelius (1960) in undertaking activities that local people generally do not do, and in places that local people generally have been moving away from. Vuin (2018) notes that other migrants also continue to move into smaller villages (even in places like the Stöttingfjället) even as out-migration remains the dominant trend, continuing the concurrent process of advance and retreat observed by Porenius (1960).

Just how many of these "isolation seeking" migrants there are has yet to be established, and Hedlund *et al.* (2017) note that the vast majority of international migrants continue to settle in the larger centres, and may find it difficult to engage effectively in the economies that exist there. In recent times in particular, a large proportion of international migrants have come to the north for non-economic reasons, as refugees and asylum seekers from Africa and the Middle East. It is expected that many of these will only stay a short time, and will remain when they are here in the larger towns which have language, education and other integration services.

Large projects in mining in particular continue to be proposed right across Västerbotten and Norrbotten, but remain more common in the latter. As demonstrated by Knobblock and Pettersson (2010) there might be some pitfalls in the statistics concerning employment related to mining since a restructuring of the sector during the 2000s entailed a shift of employed out of mining and in to private subcontracting companies that were not connected to mining in the statistics. This fact has been largely overlooked by many researchers and Knobblock and Pettersson conclude that there has actually been a small increase in the number of employed from 2002. Gen-

erally, however, the mining sector has been reduced in size since the 1980s, particularly in Västerbotten with the end of multiple projects in the Skellefte basin. Some small projects remain from that era, and there have been numerous, but typically small-scale, new projects across the region since. In Norrbotten, large-scale activities continue near Kiruna, Gällivare, and Pajala, but even these are accompanied by occasional "advance and retreat" of population as projects are suspended or expanded, and whole towns are moved to make way for that expansion or because of mining-caused damage to infrastructure (Tano, Pettersson & Stjernström 2016).

There continues to be limited attention paid to Sami human geography in the north, partly at least because of a lack of quantitative data about the Sami population (Axelsson 2011). Some Sami people continue to be involved in the reindeer husbandry sector, and there is some evidence that reindeer herds are being consolidated (in herding practice if not always in terms of number of owners), and the bases for the sector becoming more urbanised (Leu 2018; Sköld 2015). Non-reindeer herding Sami may also be having a larger impact on settlement patterns in recent times, with people in the arts and media sectors moving "back" north after starting working life in the south. Places like Jokkmokk in Norrbotten are quickly becoming hotspots of Sami arts, culture and tourism (Müller & Brouder 2014; Müller & Pettersson 2006).

The general discourse in the literature since the 1960s has had a strong focus on those who move away from the north, particularly young people and women (Carson *et al.* 2016*b*), but there is also some recent evidence that people continue to move back, and at different life stages (Vuin 2018; Johansson 2016; Lundholm 2012). The drivers for this return migration are not well understood, but may include family and social attachment, seeking employment in a familiar environment, inheritance, or more generally the renowned Swedish attraction to the country-side. How many people move back, to which settlements, and at what life stages, is not understood in detail. It is possible that, like refugee migrants, return migrants remain back in the north for just a short period of time, blurring the line between "temporariness" and "permanence." Temporary mobility based on second homes, seasonal employment, and family and social responsibilities has long been a key feature of human geography in the north, and as such continues to attract attention in the literature (Müller & Marjavaara 2012; Lundmark 2006; Lundmark & Marjavaara 2013).

Framing the Research

There are many similarities between themes from the *Siljan Symposium* and more contemporary literature. At a broad level, six persistent factors have contributed to settlement patterns in the inland north:

1. Centralisation of infrastructure and workforces (these even often "centralised" to somewhere outside of the region) as the economy first industrialised and later increased its reliance on post-productive activities;
2. Path dependency, whereby existing (larger) settlements continue to attract population even if they are not in the most favourable locations, and few if any new settlements are likely to emerge;
3. Simultaneous in- and out-migration as key factors in shaping and re-shaping settlement patterns;
4. Redistribution of population within the region, including through return migration;
5. Diversity of migration and settlement behaviours of international in-migrants; and
6. Changing preference for settlement in different "zones" within the north, based on land use and accessibility. Different experiences have been had in the north (Norrbotten) and south (Västerbotten) and the east and west, and along rivers harvested for hydro-power and transport and communication lines.

A regional pattern of urbanisation and population loss has emerged from these factors, but they may have also caused diverse local experiences, creating a diversity of northern settlement which has been examined in qualitative terms, but rarely quantified (with the exception of Hedlund's [2016] economic zones). A conceptual model of how settlement in the inland north may change in the future therefore requires a more detailed understanding of the ways in which these six factors are acting in concert or opposition, and their local as well as regional implications.

The human geography of the Swedish north has continued to be compared to other places around the world. While the *Symposium* focused on western European comparisons, there were also some comparisons with what might be considered more "remote" areas in North America. In recent times, it has been more common to compare the Swedish north with other Arctic regions (including North American Arctic regions) and other "remote" areas in places like Australia (Carson *et al.* 2011; Taylor 2016). These comparisons have re-emphasised some of the features of advance and retreat of settlement that have been highlighted in this introduction. Human geography in places like the Swedish north has been considered to be "dynamic," being under the influence of constantly changing forces related to migration and mobility. These forces may be related to the origins and destinations of migrants, their lengths of stay and settlement locations, and their reasons for coming and going. All of these are "diverse," and it is com-

mon to find substantially different experiences (such as high or low population turnover rates) in even proximate settlements. These differences, as Bylund (1960) noted, are "dependent" on what the land is used for (mining, forestry, energy production), with these activities often being very localised (at least at specific points in time). As a result, simply describing what the *Symposium* termed regional patterns of advance and retreat (Enequist 1960*b*) overlooks local "detail" which may ultimately be more important in determining conditions in the long run.

Methods

Data were drawn from the Statistics Sweden Statistical Database (www.statistikdatabasen.scb.se) concerning population size of municipalities and population centres (with more than 200 residents) from 1960 to 2016. The Statistical Database was also used to access summary migration data (number of in- and out-migrants) by municipality for the period 1968–2016.

Additional data were drawn from the ASTRID database hosted at the Department of Geography and Economic History at Umeå University in Sweden. For the purposes of this research, data entered into ASTRID from Swedish population registers and covering the period 1985–2012 were used. Data were geocoded according to postcode area (175 in the region of interest) and municipality (14). Data items included the postcode and municipality of residence for each year between 1985 and 2012, country of birth and year of birth. Country of birth was recoded into eight major groups—Sweden, other Nordic countries, Western Europe, Eastern Europe, Africa and the Middle East, Asia, and the remainder. Postcodes were considered classified as either being in, or principally in, the municipal administrative centre (which was also the largest town in each municipality and, with the exception of Gällivare, the only town with 1,000 or more residents in 2012) or being outside of the municipal centre (and termed "rural" for the purposes of this research). Migration rates were calculated as the volume of migrants as a proportion of the resident population in the most recent year being considered.

Results

Regional Urbanisation, Population Loss and the Emergence of New Settlements

In 1960, about 33% of the regional population lived in the municipal administrative centre. This increased to over 60% by 2015. In 1960, there was a smaller proportion of the Västerbotten inland population (30%) in administrative centres than in Norrbotten (36%), but both sub-regions passed 50% by 1975, and have had similar proportions since then. Relative growth in administrative centre population averaged over 5% each five years between 1960 and 1980, but has slowed since then, increasing by only 5% in total

between 2000 and 2015. All municipal centres increased their share of the municipal population throughout the period, although Kiruna (the largest and most dominant centre, with already 70% of the municipal population in 1960), has lost share since about the year 2000 (from 80% to 74% in 2015).

Norling (1960) focused on the share of the population living in urban centres of particular sizes. He anticipated that, with few exceptions, smaller centres (with fewer than 1,000 residents) would house less of the population over time. In 1960, there were 48 urban centres with populations between 200 and 1,000 residents (smaller centres have not been consistently recorded across the whole period) which collectively housed 13% of the population. In 2016, there were 21 such centres housing 9% of the population. In contrast, while there were also fewer larger urban centres in 2016 (15) than in 1960 (20), their share of the population increased from 43% to 66% during the period (see Table 1). The shift in population share from smaller to larger centres has been more dramatic in Västerbotten than in Norrbotten. Two urban centres, Messaure in Jokkmokk municipality (built to house hydro-power construction workers and their families in the 1960s and 1970s) and Adakgruvan in Malå municipality (built to house mining workers and their families at about the same time), were completely de-populated during the period.

Table 1. Number of urban centres and population share, 1960–2016.

Centre size	Number of centres		Number of inhabitants		% of total population	
	1960	2016	1960	2016	1960	2016
Fewer than 200			68,367	24,119	44	25
200–999	48	21	20,495	9,013	13	9
1,000+	20	15	68,270	64,650	43	66
Norrbotten						
Fewer than 200			32,686	12,776	34	21
200–999	30	15	12,680	6,964	13	11
1,000+	12	7	49,839	41,922	52	68
Västerbotten						
Fewer than 200			35,681	11,343	58	31
200–999	18	6	7,815	2,049	13	6
1,000+	8	8	18,431	22,728	30	63

Table 1 shows that overall there has been a decrease in actual population in the larger urban centres, even as their population share has increased. This was not the case in Västerbotten, however, where the larger centres (consistently solely the municipal centres) grew from about 18,500 residents in 1960 to nearly 23,000 in 2016. However, even in Västerbotten, all municipal

centres have lost population since 1995. Only Lycksele has had a period of population growth (0.4% between 2010 and 2015). In Norrbotten, the picture is more mixed, with periods of rapid growth and decline associated with expansion and contraction of mining projects, and population growth everywhere except Kiruna since the early 2000s. That growth has not, however, led to growth in the municipal populations as a whole, with, interestingly, Kiruna the only municipality to experience any population growth in any five-year period between 1960 and 2015 (growth between 2% and 6% between 1960 and 1975, and 1% between 2010 and 2015). Overall, quinquennial rates of population loss across the region have varied from 2% to 7%.

While Table 1 shows that the number of urban centres with populations between 200 and 1,000 has declined since 1960, there are three centres which have grown to this size during that period. Tjautjas (population 237 in 2016) is a lakeside village in Gällivare municipality, about 20 kilometres from the mining town of Koskullskulle (population 835), and has become an alternative place of residence mostly for mine workers. Hedlunda (population 205) is on the outskirts of Lycksele town (where the airport is located) and may be better thought of as a suburb of that town. Hemavan (population 263) in Storuman municipality, reached 200 residents by 2005. Hemavan is a ski tourism resort which has received substantial investment from government and private industry since the turn of the century (Müller 2013). Apart from Tjautjas and Hemavan, no smaller urban centre has increased residential population since the year 2000.

Simultaneous "Advance and Retreat"

There was net positive migration to the region as a whole in just 17 of the 49 years since 1968. There were more net positive migration years for Västerbotten (20) than Norrbotten (15), with Dorotea (28) and Vilhelmina (23) having the most net positive migration years among the individual municipalities. However, there was net positive migration for the region as a whole, and for Norrbotten and Västerbotten sub-regions every year in the decade 2007–2016, and all municipalities except Storuman and Jokkmokk (5 years each) had net positive migration in over half of the years in that decade.

In 36 years across the entire period, in-migration and out-migration rates both increased or decreased. The overall correlation between in-migration rates and out-migration rates was 0.65 (very strong), and 0.62 in Västerbotten and 0.55 in Norrbotten. While in 34 years, in- and out-migration rates changed in the same direction in more than half of the individual municipalities, the municipal experiences were quite varied. There were very small negative correlations between in- and out-migration rates across the entire period for Norsjö, Åsele and Arjeplog, but very strong posi-

tive correlations for Dorotea, Lycksele and Gällivare. All other municipalities had weak positive correlations. On two-thirds of the occasions that in- and out-migration changed in the same direction, there was an increase in both. This was the case in both Norrbotten and Västerbotten, but in Malå and Jokkmokk, there were more years when migration rates decreased together than increased together. Likewise, in 29 years, the most common simultaneous change was increase in both in-migration and out-migration rates.

Internal Re-Distribution

Between 2011 and 2012, 12,240 residents migrated into or out of a postcode in the northern inland region. Just over 40% of these moved from one postcode to another within the same municipality, and a further 5% moved to another postcode in the northern inland region.

Table 2. Spatial characteristics of migration to and from northern inland postcodes, 2011–2012.

Characteristic	Population	%
Migrants	Total 2012 population	12%
Migrants within the same municipality	Total migrants 2011–2012	41%
Migrants within the inland north	Total migrants 2011–2012	5%
Migrants from the remainder of Västerbotten and Norrbotten County	In-migrants (excluding migrants within municipalities) 2011–2012	26%
Migrants from outside of the two counties	In-migrants (excluding migrants within municipalities) 2011–2012	54%
Foreign born in-migrants	In-migrants (excluding migrants within municipalities) 2011–2012	33%
Migrants to the remainder of Västerbotten and Norrbotten County	Out-migrants from the northern inland region	55%

About 62% of in-migrants (excluding migrants within a municipality) moved to the municipal centres, which was higher than the municipal centre share of the population in 2012 (58%). About 64% of out-migrants were leaving municipal centres. About two-thirds of migration within municipalities was either from one part of the municipal centre to another or from one rural area to another. Otherwise, a higher proportion (20%) of internal migrants moved from a rural area to the municipal centre than moved the other way (15%). Within the northern inland region as a whole, migration also slightly favoured moves from rural to municipal centres (24% compared to 22% moving from municipal centres to rural areas). However,

while moves within a municipality were divided such as to maintain the municipal centre-rural population split, migration from other parts of the inland north provided a net population increase to rural areas. Migration of foreign-born residents (65% of whom moved to municipal centres) slightly favoured municipal centres. Overall, migration flows to municipal centres were larger than the municipal centre share of the resident population in all municipalities except Kiruna (where only 41% of migrants moved to the municipal centre, while 57% of the population lived there) and Gällivare (70% of migrants compared with 74% of residents). Migration most favoured the municipal centres in Sorsele (75% of migrants compared with 47% of residents), Arjeplog (85% compared with 63%), and Dorotea (71% compared with 57%).

Return Migration

About 16% of the 2012 regional population aged three years and older had lived in their current municipality on at least one other occasion since 1985 (see Table 3). Return migration rates were higher in Norrbotten than in Västerbotten, and highest in Pajala (21%) and Kiruna (20%). About 13% of return migrants had moved away and returned at least twice, and some (about 50 in total) had lived in the municipality on at least four different occasions during this period. Norsjö (23%) and Jokkmokk (17%) had the highest proportion of return migrants who had had multiple periods of residency in the municipality.

Rates of return migration appear substantially higher for those aged 15–29 years (when they most recently returned). A number equal to 36% of the population aged 15–29 years in 2012 had returned when they were in this age group. There were comparatively very low rates of residents returning aged 65 years and over (a number equal to 4% of the 2012 population aged 65 years and over). Municipalities in Norrbotten had higher return rates for people aged 50 years and under, while rates were similar in the two counties for older people.

More residents would be expected to have returned in more recent years as earlier returners increase their likelihood of migrating out once again, or dying. While this is generally true, there were also some specific years where higher than expected numbers of 2012 residents returned. Most striking is 1998, a year in which 6% of 2012 return migrant residents returned (with just 3% in 1997 and 1999). This "break in trend" is accounted for largely by high numbers of return migrants to Gällivare, Jokkmokk and Kiruna arriving that year (probably associated with increased mining activity).

Return migrants were equally likely to be living in the municipal capitals as were other residents (58% did so). Older return migrants (by age in

Table 3. Characteristics of return migrants to northern inland municipalities, 1985–2012.

Municipality	Return migrants (% of 2012 population)	Multiple returns (% of return migrants)	Aged <14 (% of 2012 population)	Aged 15–29 (% of 2012 population)	Aged 30–49 (% of 2012 population)	Aged 50–64 (% of 2012 population)	Aged 65+ (% of 2012 population)
Norsjö	11%	23%	3%	27%	17%	7%	3%
Malå	14%	12%	7%	37%	19%	8%	4%
Storuman	15%	10%	6%	39%	21%	12%	4%
Sorsele	16%	11%	3%	32%	21%	17%	5%
Dorotea	16%	10%	7%	28%	25%	16%	5%
Vilhelmina	14%	11%	4%	31%	19%	10%	5%
Åsele	14%	12%	6%	29%	21%	15%	5%
Lycksele	14%	13%	4%	32%	17%	8%	5%
Arvidsjaur	14%	13%	4%	31%	18%	12%	5%
Arjeplog	17%	12%	7%	31%	28%	15%	4%
Jokkmokk	14%	17%	10%	30%	22%	9%	4%
Pajala	21%	11%	7%	34%	39%	23%	7%
Gällivare	16%	15%	8%	36%	23%	7%	3%
Kiruna	20%	14%	10%	45%	26%	7%	3%
TOTAL	**16%**	**13%**	**7%**	**36%**	**23%**	**10%**	**4%**
VÄSTERBOTTEN	**14%**	**12%**	**5%**	**32%**	**19%**	**10%**	**5%**
NORRBOTTEN	**17%**	**14%**	**9%**	**38%**	**25%**	**10%**	**4%**

2012) were more likely to be living outside the municipal centre than were younger return migrants, and only 48% of return migrants aged 65 years and over lived in the municipal centres (compared with 55% of the total population). In contrast, return migrants aged 3–14 years were more likely to be living in municipal centres (65% did so) than the total population in this age group (60%).

International Migration

The proportion of foreign-born residents in the inland north more than doubled between 1960 (approximately 2%) and 2000 (5%) and doubled again between 2000 and 2017 (10%). In the most recent year for which there are detailed data (2012), 8% of the region's population were foreign-born. Rates of foreign-born population were similar across all municipalities, with Pajala and Sorsele (12% each) having substantially higher rates, but with only Storuman (5%) having less than 6%. Foreign-born residents were more likely than the Swedish-born population to be living in the municipal centres (61% compared to 57%), but there were some rural postcode areas with high proportions of foreign-born residents (see Fig. 3). These include areas in Pajala with more than 20% of the population foreign-born, but also areas in Jokkmokk, Arjeplog, Norsjö and Dorotea with more than 15%. At the same

time, areas with very low proportions of foreign-born residents (less than 5%) were exclusively rural areas.

Rural areas generally experienced the highest increases in foreign-born population between 1985 and 2012, with increases of over 10% (share of the total population) in rural parts of Kiruna, Sorsele and Åsele along with the "hotspots" in Jokkmokk, Arjeplog and Dorotea identified in Fig. 3. Growth in the foreign-born population was experienced everywhere except Arvidsjaur and Norsjö (in both cases, foreign-born residents had about 2% lower share of the resident population in 2012 compared with 1985).

While the number of foreign-born residents from other Nordic countries decreased in absolute terms from 4,500 in 1985 to 3,000 in 2012, there

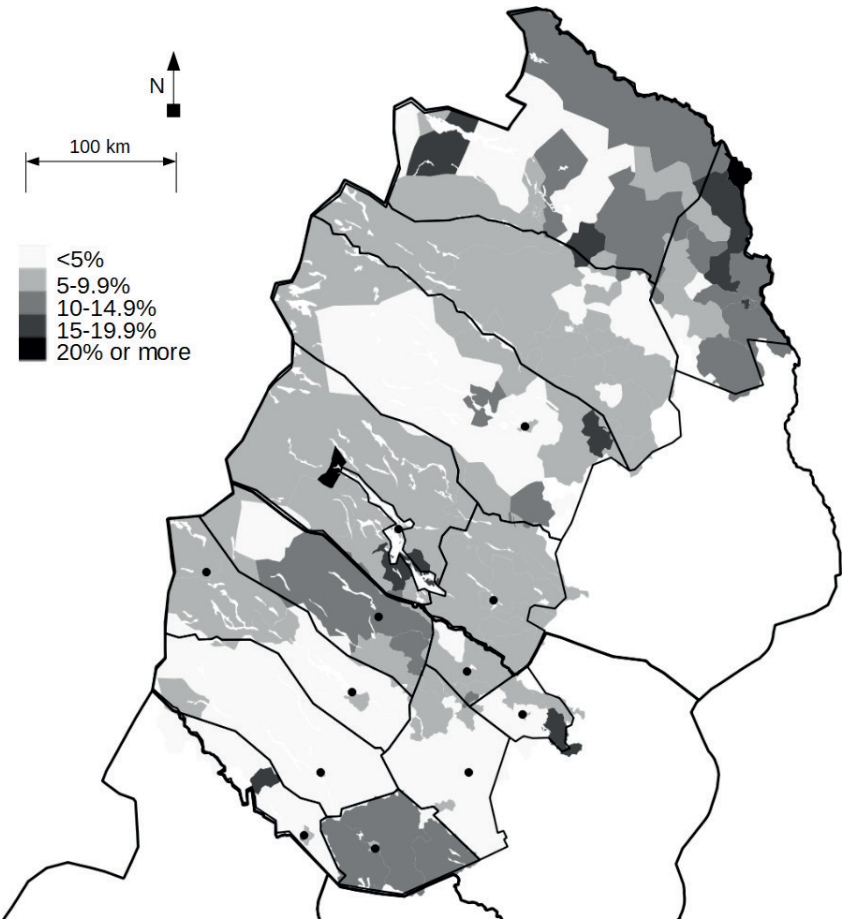

Fig. 3. Proportion of population foreign-born by postcode, 2012.

were absolute increases in the number from Western Europe (270 to 940), Eastern Europe (144 to 855), Africa and the Middle East (255 to 1,528), Asia (327 to 1,450) and all other countries combined (161 to 366). Over 80% of residents born in Africa and the Middle East lived in the municipal centres, along with 71% of those from Asia. There were rural "hotspots" for Asian-born residents in Gällivare and Vilhelmina, but no particular rural hotspots for residents born in Africa or the Middle East.

A high proportion (47%) of Nordic-born residents lived in rural areas in the western parts of the region (primarily Norwegian-born) and the northern parts of the region (primarily Finland-born). There was also a relatively high proportion of Eastern European-born residents in rural areas (40%) and a very high proportion of Western European-born residents in rural areas (62%). Fig. 4 shows postcode areas with substantial over-representation of Western European-born (4a) and Eastern European-born residents (4b). An area was considered to have a "substantial over-representation" if its proportion of people born in those countries were 10% higher than the average (12% of all foreign-born for Western Europe and 10% for Eastern Europe). Hotspots of Western European-born residents were concentrated approximately in Stone's (1962) middle zone, while hotspots of Eastern European-born residents were more sporadically distributed throughout the region.

While overall the foreign-born population was over-represented in the municipal centres, this was largely due to high proportions of foreign-born

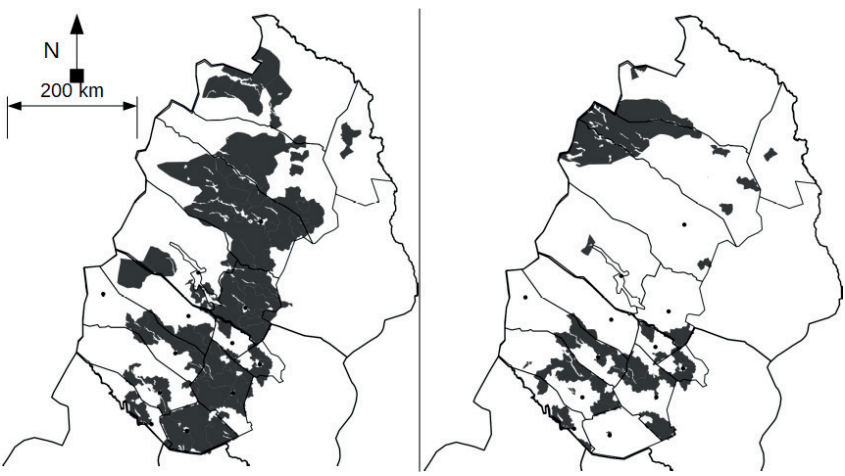

Fig. 4. Postcode areas with over-representation of Western Europe (left) and Eastern Europe born residents, 2012.

in the municipal centres of Sorsele, Dorotea, Vilhelmina, Lycksele and Pajala (Table 4). Other municipalities either had a higher proportion of foreign-born residents in rural areas, or equivalent representation in rural areas and the municipal centre.

Table 4. Proportion of population in municipal centres and rural areas who were foreign-born, 2012.

Municipality	% of municipal centre population foreign-born	% of rural population foreign-born
Norsjö	7%	8%
Malå	6%	7%
Storuman	5%	5%
Sorsele	14%	9%
Dorotea	9%	3%
Vilhelmina	9%	4%
Åsele	7%	12%
Lycksele	9%	4%
Arvidsjaur	6%	8%
Arjeplog	9%	13%
Jokkmokk	9%	8%
Pajala	15%	11%
Gällivare	8%	7%
Kiruna	9%	8%
TOTAL	8%	7%

Local Advance and Retreat in the Twenty-First Century

Fig. 5 shows the average annual in-migration rate (based on 2012 population) by postcode for the period 2001–2012. Rates were generally quite similar in the rural south, ranging from 3–5%, with some areas up to 7% in Arvidsjaur, Åsele and Vilhelmina. Municipal centre rates were typically much higher, including over 10% in Storuman town and Arvidsjaur town. There was more diversity in the north, with rural areas in Gällivare and Kiruna exhibiting both high and low in-migration relating to changes in mining operations and housing of mining workers. Municipal centres again typically had rates of 10% or above.

The very strong correlation between in-migration and out-migration rates at the postcode level (0.9) led to generally high population turnover across the region, with an average annual (2001–2012) volume of migrants in and out equivalent to 16% of the resident population in 2012. Turnover was

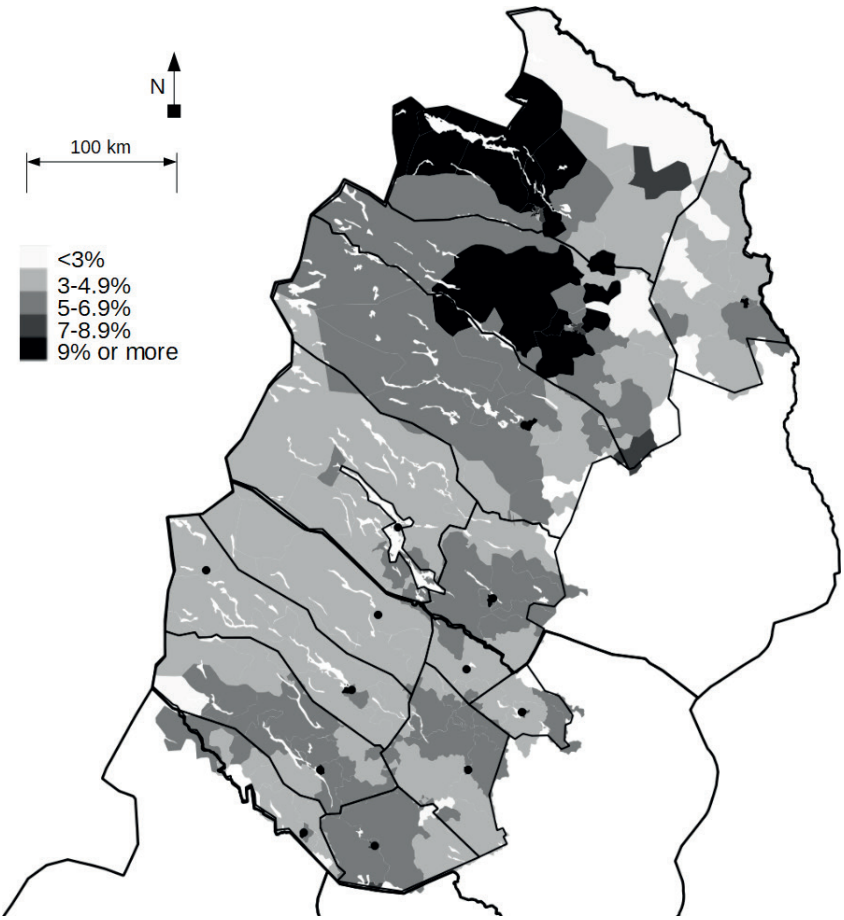

Fig. 5. Average annual in-migration by postcode, 2001–2012.

higher in the far north and generally low in the south west (Fig. 6). Often, areas with low population turnover were located right next to areas with high population turnover, particularly, but not exclusively, in Norrbotten.

Discussion and conclusions

As anticipated at the *Siljan Symposium*, the inland north has experienced a prolonged period of population loss and urbanisation since 1960. "Retreat" has been experienced both regionally and locally, with even the main population centres (the municipal centres) losing population over the period. Only two quite small population centres (Hemavan and Tjautjas) have emerged, with only Hemavan clearly linked to tourism development. Small-

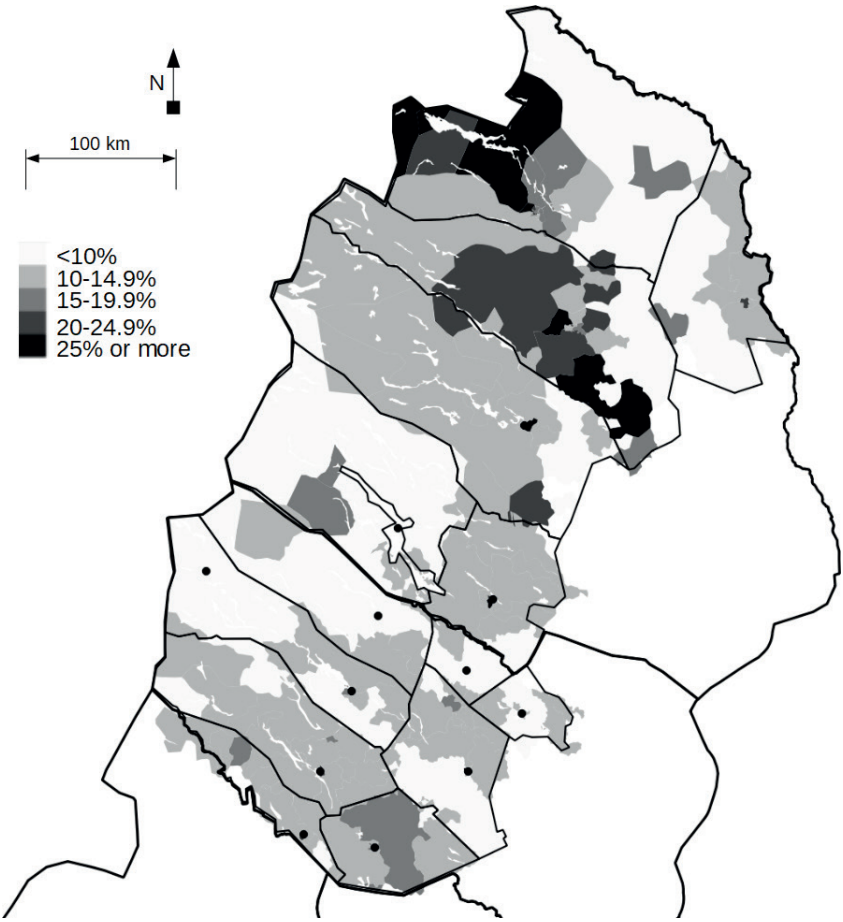

Fig. 6. Average annual population turnover by postcode, 2001–2012.

er villages have generally been more vulnerable to population loss than larger villages and towns, and the municipal centres in Västerbotten in particular have experienced some population growth over the long term. The data reveal substantial differences in experiences of advance and retreat between the north (Norrbotten) and the south (Västerbotten), including higher migration rates and more urbanised foreign-born populations, but less urbanised migrant populations overall in Norrbotten. However, even within these broad regional patterns are diverse local experiences, some of which are time constrained (such as population "booms and busts" associated with mining projects), and some of which may be more entrenched (such as selection of settlement sites for particular foreign-born migrants). The resultant "patchwork" has some resonance with Stone's (1962) fringe

zone classification, particularly highlighting the uniqueness of the middle zone. However, the outer and outer-most zones have had quite different experiences internally, typically along a north-south divide. The outermost zone in particular has been a site of substantial settlement development in the north, but not in the south, despite the focus of tourism development in the southern parts.

The "zones" identified in this research broadly align with Hedlund's (2016) analysis of sites of post-productive (tourism, social services) and extractive (mining, forestry) economic activity. While the extractive sites (in the north) appear to be subject to more dramatic settlement changes over short and long time frames, post-productive (typically in the south and west) activities are equally localised, with a focus on municipal centres and one or two smaller villages. The evidence suggests that post-productive activities, like the succession of natural resource based activities (agriculture, forestry, energy production) noted at the *Siljan Symposium*, are more likely to re-use existing settlements than create new ones, and may be constrained by what are now well entrenched path dependencies relating to transport, infrastructure, and land use planning (as discussed by Müller [2016] in the context of tourism development in northern Sweden).

The data suggest some emerging settlement characteristics which may have long-term implications for the human geography of the north. This includes, at the regional level, a shift towards net positive in-migration during the first part of this century, but also the increasing impacts of different groups of foreign-born migrants. Given that these groups have markedly different preference for different locations (north, south, east, west, rural, urban), the potential for growth in particular groups is a critical factor in anticipating future settlement changes. Since the period primarily covered in this paper (up to 2012), there has been substantial increase in African and Middle Eastern populations (who are predominantly urban dwellers), and also large increases in Western European populations (who favour rural settlement). The extent to which these groups might continue to in-migrate and remain in the north in the context of slowing rates of refugee migration, expected outflow of refugee settlers to the major southern cities, changes in intra-European migration flows (particularly as a result of Brexit), and general "temporariness" expected from European lifestyle migrants (see Eimermann 2017) is unclear.

Internal migration within the region, and return migration is a persistent feature of settlement. Internal migration somewhat favours urban settlement, but at the same time return migration somewhat favours rural settlement, particular among older return migrants. Older return migrants, however, have been a smaller proportion of the return migrant population

than might have been expected, with the large majority of return migrants being in the younger working age groups. A number of these will come and go from the north repeatedly throughout their lives, and may choose different specific locations to live each time they do so.

What is likely is that "all these things" will continue to happen to some degree and at the same time. For every general statement, there are counter examples (even if only one or two), and these counter examples may turn out to be important markers of changes in trends (such as urbanisation or even population loss). The characteristics of dynamism (reflected in simultaneous in- and out-migration), diversity (reflected in the range of populations who engage in that in- and out-migration), and dependence (reflected in the impact that local activities can have on settlement patterns) are clearly present. Factoring these into an estimation of what might happen in the next 60 years requires an understanding of the detail—who, where, when and why—that this paper has begun to explore. Combining the insights of the *Siljan Sympoisum* with the (mostly qualitative) observations of more recent geographic investigations of the north (and similar places around the world) has enabled this research to begin the process. What is needed next is better understandings of how some of the key factors that have been consistently identified over the past 60 years (population demands of different economic activities, sources of in-migrants, impacts of decisions to locate or relocate particular types of infrastructure, movement of people within the region) might evolve in the short- and long-term future, and what prospects they might therefore present for changes in both regional and local advance and retreat. Despite (and along with) a move from natural resource exploitation to services as the main sources of employment in the north, approaches to natural resource management will continue to determine settlement patterns to a large degree. "Traditional" extractive activities like forestry, mining and energy production are likely to continue to require smaller, more specialised and centralised (including to locations outside of the region) labour forces. More contemporary "attractive" activities like tourism and lifestyle migration will likely continue to involve small but widely dispersed populations who are likely to be increasingly transient. As a result, continuing dynamic shifts in who lives in the north, where they live, and how long they stay will be the central characteristic of both advance and retreat.

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REFERENCES

Aldskogius, H. (1960). "Changing land use and settlement development in the Siljan region," *Geografiska Annaler*, 42:4, pp. 250–261.

Almstedt, Å., Brouder, P., Karlsson, S., & Lundmark, L. (2014). "Beyond post-productivism. From rural policy discourse to rural diversity," *European Countryside*, 6:4, pp. 297-306.

Axelsson, P. (2011). "In the National Registry, all people are equal. Sami in Swedish statistical sources," in *Indigenous Peoples and Demography. The Complex Relation between Identity and Statistics*, eds. P. Axelsson & P. Sköld, Oxford & New York: Berghahn Books, pp. 117–133.

Bylund, E. (1960). "Theoretical considerations regarding the distribution of settlement in inner north Sweden," *Geografiska Annaler*, 42:4, pp. 225–231.

Byström, J. & Müller, D.K. (2014). "Tourism labor market impacts of national parks. The case of Swedish Lapland," *Zeitschrift für Wirtschaftsgeographie*, 58:2–3, pp. 115–126.

Carson, D.A., Carson, D.B. & Eimermann, M. (2017). "International winter tourism entrepreneurs in northern Sweden. Understanding migration, lifestyle, and business motivations," *Scandinavian Journal of Hospitality and Tourism*; https://doi.org/10.1080/15022250.2017.1339503; access date 18 March 2019.

Carson, D.B., Carson, D.A., Nordin, G. & Sköld, P. (2016*a*). "Lessons from the Arctic past. The resource cycle, hydro energy development, and the human geography of Jokkmokk, Sweden," *Energy Research & Social Science*, 16, pp. 13–24.

Carson, D.B., Carson, D.A., Porter, R., Ahlin, C.Y., & Sköld, P. (2016*b*). "Decline, adaptation or transformation. New perspectives on demographic change in resource peripheries in Australia and Sweden," *Comparative Population Studies*, 41:3–4; http://dx.doi.org/10.12765/CPoS-2016-11en; access date 18 March 2019.

Carson, D.B., Ensign, P., Rasmussen, R. & Taylor, A. (2011). "Perspectives on 'demography at the edge'," in *Demography at the Edge. Remote Human Populations in Developed Nations*, eds. D.B. Carson, R. Rasmussen, P. Ensign, L. Huskey & A. Taylor, Farnham: Ashgate, pp. 3–20.

Dubois, A. & Carson, D.B. (2017). "The relational geography of post-staples development. A case in Malå, north Sweden," *Journal of Rural and Community Development*, 12:2–3, pp. 23–40.

Eimermann, M. (2017). "Flying Dutchmen? Return reasoning among Dutch lifestyle migrants in rural Sweden," *Mobilities*, 12:1, pp. 116–135.

Enequist, G. (1960*a*). "Preface. Advance and retreat of rural settlement. Papers of the Siljan Symposium at the XIXth International Geographical Congress," *Geografiska Annaler*, 42:4, p. 210.

Enequist, G. (1960*b*). "Advance and retreat of rural settlement in northwestern Sweden," *Geografiska Annaler*, 42:4, pp. 211–220.

Eriksson, G.A. (1960). "Advance and retreat of charcoal iron industry and rural settlement in Bergslagen," *Geografiska Annaler*, 42:4, pp. 267–284.

Hedlund, M. (2016). "Mapping the socioeconomic landscape of rural Sweden. Towards a typology of rural areas," *Regional Studies*, 50:3, pp. 460–474.

Hedlund, M., Carson, D.A., Eimermann, M. & Lundmark, L. (2017). "Repopulating and revitalising rural Sweden? Reexamining immigration as a solution to rural decline," *The Geographical Journal*, 183:4, pp. 400–413.

Johansson, M. (2016). "Young women and rural exodus—Swedish experiences," *Journal of Rural Studies*, 43, pp. 291–300.

Knobblock, E. A., & Pettersson, Ö. (2010). "Restructuring and risk-reduction in mining. Employment implications for northern Sweden," *Fennia-International Journal of Geography*, 188:1, pp. 61-75.

Leu, T. C. (2018). "From Reindeer Herder to Tourist Entrepreneur," diss., Department of Geography and Economic History, Umeå University.

Lindberg, E. (1960). "Seasonal migration of labour from the Siljan area and its economic background," *Geografiska Annaler*, 42:4, pp. 262–266.

Lundholm, E. (2007). "New Motives for Migration? On Interregional Mobility in the Nordic Context," diss., Department of Geography & Economic History, Umeå University.

Lundholm, E. (2012). "Return to where? The geography of elderly return migration in Sweden," *European Urban and Regional Studies*, 22:1, pp. 92–103.

Lundmark, L. (2005). "Economic restructuring into tourism in the Swedish mountain range," *Scandinavian Journal of Hospitality and Tourism*, 5:1, pp. 23–45.

Lundmark, L. (2006). "Mobility, migration and seasonal tourism employment. Evidence from Swedish mountain municipalities," *Scandinavian Journal of Hospitality and Tourism*, 6:3, pp. 197–213.

Lundmark, L. & Marjavaara, R. (2013). "Second home ownership. A blessing for all?," *Scandinavian Journal of Hospitality and Tourism*, 13:4, pp. 281–298.

Montelius, S. (1960). "Finn settlement in central Sweden," *Geografiska Annaler*, 42:4, pp. 285–293.

Moss, L.A.G. (2006). "The amenity migrants. Ecological challenge to contemporary Shangri-La," in *The Amenity Migrants. Seeking and Sustaining Mountains and their Cultures*, ed. L.A.G. Moss, Cambridge, MA: CAB International, pp. 3-25.

Müller, D.K. (2013). "National parks for tourism development in sub-Arctic areas: Curse or blessing?" in *New Issues in Polar Tourism. Communities, Environments, Politics*, eds. D.K. Müller, L. Lundmark & R.H. Lemelin, Dordrecht: Springer Netherlands, pp. 189–203.

Müller, D.K. (2016). "On the location of tourism. An outlook from Europe's northern periphery," in *Naturtourismus. Chancen und Herausforderungen, 47. Jahrestagung des Arbeitskreises für Tourismusforschung in der Deutschen Gesellschaft für Geographie. Zwiesel 25–27 May 2016*, eds. M. Mayer & H. Job, Mannheim: Meta GIS Systems, pp. 113–124.

Müller, D.K. & Brouder, P. (2014). "Dynamic development or destined to decline? The case of Arctic tourism businesses and local labour markets in Jokkmokk, Sweden," in *Tourism Destination Development. Turns and Tactics*, eds. A. Viken & B. Granås, New York: Routledge, pp. 227–244.

Müller, D.K. & Marjavaara, R. (2012). "From second home to primary residence. Migration towards recreational properties in Sweden 1991–2005," *Tijdschrift voor economische en sociale geografie*, 103:1, pp. 53–68.

Müller, D.K. & Pettersson, R. (2006). "Sámi Heritage at the Winter Festival in Jokkmokk, Sweden," *Scandinavian Journal of Hospitality and Tourism*, 6:1, pp. 54–69.

Norling, G. (1960). "Abandonment of rural settlement in Västerbotten Lappmark, North Sweden, 1930–1960," *Geografiska Annaler*, 42:4, pp. 232–243.

Porenius, P. (1960). "Comments on the development of rural regions in Norrland," *Geografiska Annaler*, 42:4, pp. 221–224.

Sköld, P. (2015). "Perpetual adaption? Challenges for the Sami and reindeer husbandry in Sweden," in *The New Arctic*, eds. B. Evengård, J. Nymand Larsen & Ø. Paasche, Cham: Springer, pp. 39–55.

Stone, K.H. (1962). "Swedish fringes of settlement," *Annals of the Association of American Geographers*, 52:4, pp. 373–393.

Tano, S., Pettersson, Ö. & Stjernström, O. (2016). "Labour income effects of the recent 'mining boom' in northern Sweden," *Resources Policy*, 49, pp. 31–40.

Taylor, A. (2016). "Introduction. Settlements at the edge," in *Settlements at the Edge. Remote Human Settlements in Developed Nations*, eds. A. Taylor, D.B. Carson, P.C. Ensign, R. Rasmussen, L. Huskey & G. Saxinger, Cheltenham: Edward Elgar, pp. 3–24.

Vuin, A. (2018). "Migration against the tide. In-migration to lower amenity rural sparsely populated areas in Australia, Sweden and Croatia," diss., Charles Darwin University.

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