

Nuuk, Greenland: Site, Situation, and “The Law of the Primate City”

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Abstract

Jefferson’s “Law of the Primate City” states that a country’s principal (i.e., primary) city is always disproportionately large in population and exceptionally representative of national capacity and feeling. This article examines the extent to which Nuuk, the capital of Greenland, is in accord with the “law.” Site and situation factors are presented to illustrate how Nuuk came to be Greenland’s dominant population and economic centre. The degree to which the city represents national feeling was assessed through an interpretation of the cultural landscape, literature review, and interviews with current and former residents of Greenland. Clearly Nuuk is disproportionately large and possesses much of the country’s economic capacity; however, there is some reservation at the present time as to whether or not it truly is representative of national feeling. As Greenland continues to modernize and as Nuuk continues to attract more and more people from other parts of the island, the city eventually could become more representative of the country’s cultural identity.

Introduction

Many countries and regions have a city that is dominant in population number and that functions as the political, economic, and cultural focus of its realm. Geographers call such an entity a “primate city.” In 1939 geographer Mark Jefferson presented his “Law of the Primate City,” which explained a country’s (or a region’s) pattern of city-size distribution. The “law” proposed that “a country’s leading city is always disproportionately large and exceptionally expressive of national capacity and feeling” (Jefferson 1939, 232).

The primate city and alternate city-size distribution concepts such as the rank-size rule (Zipf 1939) were extensively examined during the mid-twentieth century, with varying findings across countries and other political and regional units (Berry 1961; Reed 1972). In recent years there has been a resurgence of interest in both concepts as evidenced by a reanalysis by Berry and Okulicz-Kozaryn (2012) and studies of Europe (Crampton 2005), the Americas (Galiani and Kim 2011), Sri Lanka (Jayasinghel and Dissanayake 2014; Campanella 2015), and Bulgaria (Dimitrova and Ausloos 2015). A strong case can be made for cities such as London, Paris, Buenos Aires, and Cairo being the primate city for their respective countries. Each is a capital, transport hub, financial centre, and the cultural pivot. Such primate cities are monuments to the history, economy, and heritage of the nation. In other countries the question of primacy, however, is somewhat murky. Questions may arise as to whether a disproportionately large capital city is always a true primate city within the spirit of Jefferson’s “law.” Many of today’s primate cities, such as Jakarta, Manila, and Sao Paulo, are mega-cities and can be considered “global cities” or “interface cities” and as such meet Jefferson’s idea of national capacity as they are the economic powerhouses of their respective lands. In terms of national feeling, they are cultural centres and many residents were born elsewhere in the country.

There are advantages and disadvantages to primacy. On the plus side, scale economies will exist because resources, services, and infrastructure on a large scale in the “primate city” may attract domestic and foreign investment and this may result in trickle-down to the rest of the country. Conversely, the existence of a primate city may result in urban–rural

imbalances in development as the growth of the city may hamper the emergence of contending towns.

Parts of the Arctic world have seen rapid urbanization in the last 100 years, but because of the region's small population numbers, urbanism is more a matter of "a quality of life and experience" rather than a matter of settlement size (Dybbroe 2008).¹ The literature on urbanization in Greenland tends to focus on social issues and economic transformations while only incidentally mentioning any urban geographic theory (Dybbroe 2008; Forchhammer 1997; Rygaard 2003; Dahl 2010; Grydehøj 2014; Hendriksen 2014). This article is in part an attempt to add more geography to discussions of urbanization on the icy island. Nuuk, the capital of Greenland, pales in comparison to the "world" primate cities with regard to population size and global economic stature; however, this article examines Nuuk in the context of Jefferson's original thesis, which did not directly address today's globalization. Gottdiener and Budd (2005, 104) state that "size runs parallel to eminence and that is the main determinant of the primate city," but their observation does not describe eminence beyond economic prowess. Jefferson, however, pointed out in his seminal work that the primate city draws its residents from all parts of the country and thereby expresses the national disposition more completely than any other settled area (Martin 1961). This appears to be the case for most primate cities today (Reed 1972; Crampton 2005; Galiani and Kim 2011). It would appear that Nuuk may partly fit Jefferson's "national capacity" if it is based on economic dominance and the influx of migrants from all over Greenland. But does it reflect "feeling"? In other words, is Nuuk the real Greenland?

Nuuk is by far the largest settlement in a sparsely populated island, but does it meet all of the criteria for primacy? Primacy as defined in this article has three components: 1) inordinately large population size relative to other settlements in the country, 2) economic preeminence, and 3) symbolic of the national cultural identity. This article examines the settlement's development and current status within the context of the geographic concepts of site and situation in order to ascertain to what degree Nuuk could be classified as a primate city. Specifically addressed is the city's current role in the national capacity and feeling of Greenland.

2. Materials and Methods

This study is part of the author's long-running research on various aspects of Greenland's settlement geography. An extensive literature review of Nuuk's physical environment, history, and culture was conducted to determine how the city developed in a manner different from other settlements in Greenland and to discern whether or not Nuuk is perceived to represent the culture of Greenland today. Next, a theoretical structure was put together by looking at what had been written regarding primate cities and the workings of site and situation. To acquire additional insights and to plan for field research, correspondence with a small number of current and former residents in several Greenland towns and villages began in 2013. In order to integrate theory and observations of the region, the author travelled to Greenland, visiting ten settlements at various times between July 2013 and May 2017. Field work in each community consisted of guided and independent excursions to experience the cultural landscape and photograph significant natural and human-made features. Nuuk was visited in June 2016.

Semi-structured interviews (forty-four, generally from ten to twenty minute duration) were conducted during field work in the ten locales, and several residents in each settlement discussed their perceptions of Nuuk's geography, history, and cultural attitudes. After returning from Greenland the author continued discussion with eight of the interviewees via email. In May 2017, the author conducted an additional six online interviews with Greenland residents and expatriates via social media (Facebook) to further assess the question of Nuuk's representation of Greenlandic culture. Three approaches were followed to assess whether Nuuk today reflects the culture of Greenland and is indeed the historical focus of the island. The first method involved a "reading" of the cultural landscape by examining the layout, architecture, and cultural markers of the city. Secondly, the author consulted several scholarly and general articles treating the cultural attitudes of present-day Nuuk. Finally, the author analyzed results from forty-four face-to-face and online casual interviews with current and former residents from nine different locales including Nuuk. Then began the formulation of a descriptive analysis of the capital city's condition of primacy. All images in this article were taken or compiled by the author.

3. Aspects of a Primate City and the Case of Nuuk

Figure 1 shows the population ranking of sixty official towns and settlements in Greenland. As of January 1, 2017, the population of Greenland was 55,860 and 17,600 people lived in Nuuk (Statistics Greenland 2017). The second largest town is Sisimiut with a population of 5,414. The smallest official settlement is Igaliku with just twenty-seven residents. Nuuk does fulfil the first part of Jefferson’s law as it is disproportionately large.

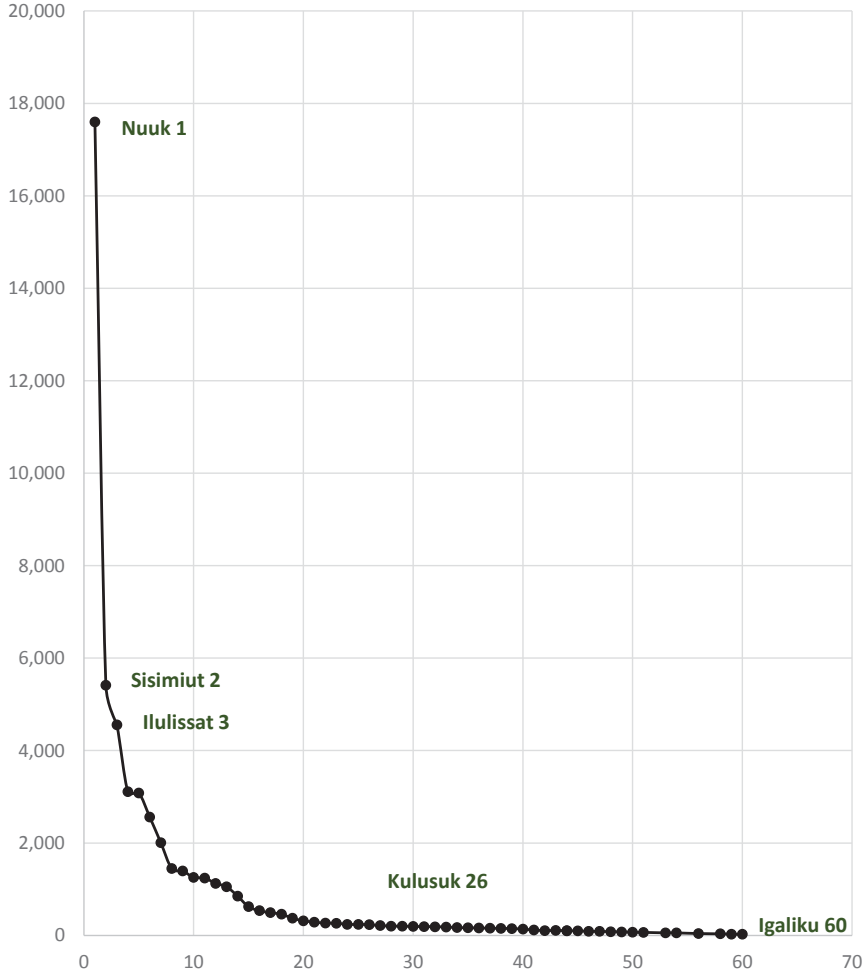


Figure 1. City, town, and settlement population and rank for sixty Greenland towns and settlements. (Source: Statistics Greenland 2017)

There are a number of reasons why one city in a country comes to exceed all settlements in population size. A quantitative analysis by Linsky (1965) suggests that six factors appear to be working in primate city distributions. These are: 1) areal extent of the country, 2) relative degree of a country's affluence, 3) the economy's dependence on exports, 4) ex-colonial status, 5) proportion of the population engaged in agriculture, and 6) rate of population growth. A sample of more recent works generally corroborates the observations made by Linsky (Reed 1972; Dimitrova and Ausloos 2015; Van Der Merwe 1989; Mokhtar 2013).

1) Areal extent of the country. Countries with a small areal extent are more likely to have a primate city than are large countries. Andorra is a good example; the case has also been made for micro-states such as Qatar and Kuwait, even though these have significantly larger populations (Burnn, Williams, and Zeigler 2003). While Greenland is the largest island in the world, almost 81% of its land area is covered by the inland ice sheet, limiting human settlement to the narrow coastal fringe (see Figure 2). Cold climatic conditions in the north and sea-ice conditions along much of the east coast further constrain settlement. Therefore, a case can be made for Nuuk being the capital of a rather small country. Hendriksen actually makes the argument that Greenland "in terms of demographics and economics ... is a micro-state" (Hendriksen 2014, 3).

2) Relative degree of a country's affluence. The average per capita income of a country tends to be negatively correlated with a primate city distribution largely because a wealthy citizenry would require a greater volume and array of services and goods than would a lower-income population. It would be economically impracticable to try to distribute these items from a single centre, and the demand for urban services by the affluent would encourage the growth of local cities. Greenland's per capita income is a little less than C\$43,200 (Statistics Greenland 2015). Greenland would rank about 25th in the world if it were an independent state. But the level is somewhat misleading. Greenland's per capita income is about 58% that of Denmark's. Despite home rule status, Greenland is still part of Denmark and the government in Copenhagen continues to subsidize the island. There is also disparity in income levels between governmental enumeration units, with incomes in the municipality that contains Nuuk

being significantly higher than those of other locales. It must be noted, however, that official statistics may not present a full picture of income levels because income from informal and subsistence economic activities in the smaller settlements may not be reported. Rasmussen (1999) suggests that the informal and subsistence sector might provide one-third of the income in Greenland's smaller settlements.



Figure 2. Greenland: Ice-covered areas and selected settlements. (Map compiled by the author; base map adapted from GEUS-Geologic Survey of Denmark and Greenland)

3) *The economy's dependence on exports.* Countries whose economies are greatly dependent upon exports usually have primate city distributions (Linsky 1965; Nagle 1999; Aroca and Atienza 2016). Greenland's economy is very dependent on exports of fish and shrimp, which accounted for 88% of total exports in 2013 (Naalakkersuisut 2017). In recent years Greenland shows a trade deficit with import value slightly higher than export value, but it must be kept in mind that a significant part of Greenland's economy revolves around a substantial annual block grant (roughly C\$740 million) from the government of Denmark. This is used primarily for infrastructure, social and health programs, and economic projects.

4) *Ex-colonial status.* It is common for countries that were former European colonies to have a primate city pattern (Robinson 1980; Lyman 1992). Greenland is technically a part of Denmark and some aspects of the island's political and economic structure still exhibit vestiges of colonial control—some residents even refer to Nuuk as being a “Danish town.” Copenhagen's colonial policies (and some subsequent policies from the home rule and self rule governments in Nuuk) favoured the development of Nuuk and also directed migration from small west coast settlements to the capital city and to “large” towns like Ilulissat and Tasiilaq (Dahl, 2010; Dzik 2016). This effectively increased the disparities between the more populated places and the peripherally located villages (Dahl 2010).

5) *Proportion of the population engaged in agriculture.* Linsky (1965) found that countries with a high percentage of the labour force engaged in agriculture were likely to have primate cities. Greenland has limited agriculture (mostly sheep farms in the vicinity of Narsaq along the southwestern coast). If we substitute primary industry—which includes agriculture, fisheries, hunting, and mining—for agriculture, about 19% of Greenland's labour is employed in the primary sector. For comparison, about 3% of the United States and 7% of the New Zealand workforce is engaged in a primary sector activity. In many less-developed countries the number exceeds 40%. The service sector is the biggest employer, accounting for almost 70% of Greenland's labour force (Statistics Greenland 2015) and such activities tend to be concentrated in cities.

6) *Rate of population growth.* A rapid rate of national population growth could play a role in the rise of a primate city, especially when the increase is due to a substantial drop in mortality rates over the course of several decades while birth rates remain high (Karan 1994; Brea 2013). For much of the period between 1880 and 1950, Greenland's crude mortality rate was between 25 and 30 per 1000 population; the years from 1950 to 1970 saw a precipitous drop to a rate around 9, and this has held steady into the present (Hamilton and Rasmussen 2010). Birth rates were around 40 to 50 per 1000 population until 1960 when they also fell dramatically over two decades to levels near the present 18. The island's population has skyrocketed from about 23,000 in 1945 to the present 55,860.

It does appear that, with some slight modifications, Nuuk meets all of the factors stated above. It is roughly three times larger in population than the second-ranked city in Greenland, and it does dominate, by far, the economy of the island. Nuuk has benefited from being the capital of Greenland with regards to trade, business, and government projects (Grydehøj 2014; Ramboll Group 2013). Nuuk is also the site of several cultural institutions, such as Katuaq (Greenlandic cultural house) and Nuuk Kunstmuseum (art museum), and Ilisimatusarfik (University of Greenland), the island's only university.

4. Site, Situation, and the Development of Nuuk

Site, or attributes of place, most often define the initial stages of a human settlement (village, town, or city), but as time goes on situational factors are more likely to influence the success or failure of the settlement. This has largely been the case for Greenland where inland ice, climate, the sea, and topography limit suitable sites for permanent settlement and where government policies often have directed the location, and the development or abandonment, of certain towns and villages (Madsen 2009; Dzik and Dzik 2016). Historically, settlements in Greenland were generally located based on site characteristics, particularly the prospects for sea- and occasionally land-animal resource exploitation (Hendriksen 2014). Variabilities in the resource base (situation) might require people to sometimes resettle in places with better hunting and fishing potential and this would result in the desertion of settlements and the founding of new ones. In the past 100 or so years, natural fluctuations in local climate and

resource availability have at times occurred coincidentally with government policies, which determined settlement survival, growth, or closure.

Site refers to the actual geographic position of a settlement and is comprised of the physical characteristics of that location (Dickinson 1948; Nagle and Spencer 1998). Natural site characteristics are many and include such phenomena as climate, navigation and harbourage potential, soil characteristics, drinking water supply, vegetative types and the local animal community, topography, and relief. Human-built infrastructure (e.g., airports, canals, railroads, quays), once in place, becomes a site characteristic. Situation is somewhat more complex and encompasses a range of circumstances including: 1) a place's location within the regional or global framework; 2) relative location; 3) natural or human-caused disasters and climatic fluctuations; 4) economic, demographic, and/or social changes, and aspects of government agendas. Once a settlement has been established, situation advantages (or disadvantages) can become site aspects (Patton 1983).

Geographer John Agnew (1987) contends that "place" is composed of three interconnected elements: location, locale, and sense of place. Location is essentially the place's geographic coordinates while locale is a combination of physical site characteristics and social relations (Hsing 2010). Locale thus may be viewed as a combination of site and situation. Sense of place is perhaps a bit ambiguous (Paradis 2003), but can refer to the ways people become attached to places. The more people become socially involved in the locale, the greater their sense of place becomes. A person's sense of place grows with "long-time familiarity" with the place's natural and cultural landscape (Paradis 2003). We may take that attachment as being part of national feeling in this study of Nuuk.

The historical and present-day site characteristics of Nuuk are not especially auspicious for the emergence of a "large" settlement. Much of the west coast of Greenland is severely indented by fjords (glacially-carved valleys drowned by the incursion of the sea) and the region around Nuuk is no exception. Figure 3 shows that Nuuk is positioned on a mountainous peninsula near the mouth of the 160 km long Nuup Kangerlua (formerly Godthåb Fjord). Sea ice is normally absent from the Nuuk area's nearshore ocean waters from April or May until November or December, but icebergs may be present throughout the ice-free period. Isolated from warmer offshore currents, sea ice forms locally in the fjords during winter.

Some distance inland the fjords have ice from December to March. Nuuk's harbour can get sea ice up to 30 cm thick during some winters, but this does not impact navigation much in the modern age. During summer there can be icebergs and small floes in the fjords, particularly in the vicinity of Kapisillit, from the calving of the nearby glacier Kangiata Nunaata Sermia (Figure 4).

The geology of the area is composed of an igneous migamatic geologic basement complex largely of pre-Cambrian age. The physiography is generally alpine in structure and appearance and has features (e.g., U-shaped valleys and moraines) typical of continental and alpine glaciation. Fairly level land is largely confined to the coastal fringes of the peninsulas and islands. The climate of Nuuk and the region is classified in the Köppen system as ET (polar tundra) and is affected by the maritime location and the nearby inland ice. Average monthly temperature is below 10°C, but there are several months with means above freezing. A maritime influence moderates the winter temperatures and winter monthly means tend to be just a little lower than -10°C. Annual precipitation for Nuuk averages 75 cm. Snow is a conspicuous part of the area's landscape with Nuuk recording about 105 days when some snow falls and 223 days with some snow cover (Danish Meteorological Institute 2001).

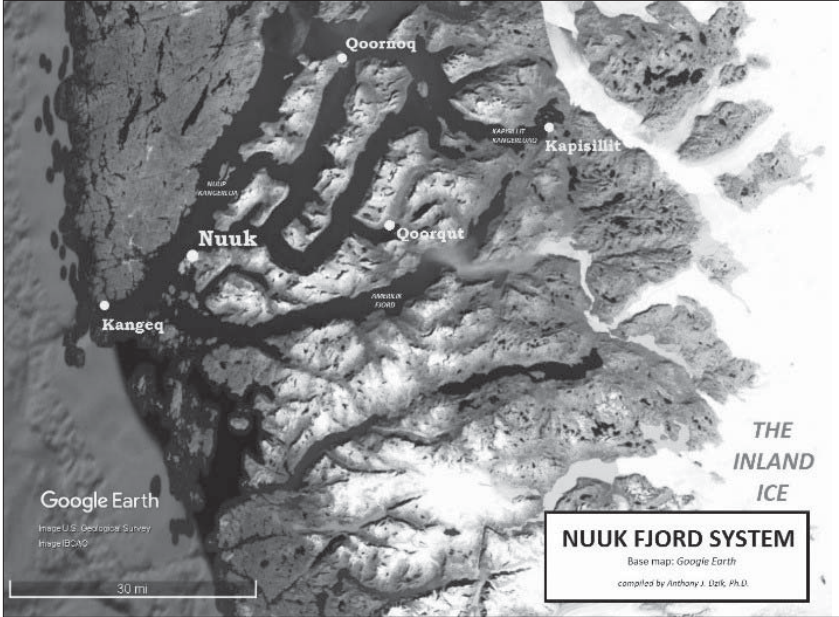


Figure 3. The Nuuk fjord system. (Map compiled by author using Google Earth as a base)



Figure 4. Icebergs in the Kapisillit Kangerluaq fjord (an arm of Nuup Kangerlua) about 50 km northeast of Nuuk in June 2016.

Patchy areas of permafrost can be found in parts of the region, most notably in the inland areas (Elberling 2016). In most places, particularly near the ocean, the permafrost layer is not very thick. Soils in the region are thin and barely productive because of the sparseness of vegetative cover and because permafrost and the tundra climate inhibit mature soil development. Vegetation tends to be discontinuous and consists mainly of the common tundra species of grasses, sedges, mosses, lichens, and dwarf willow. Upper elevations and slopes are typically bare rock. Terrestrial mammal species are few in number. Arctic fox and hare are fairly common in the area outside of the urban centre of Nuuk. In the past, wild caribou could be encountered near Kapisillit where today there is a feral reindeer population (a remnant of a domestication program). Polar bears on rare occasion visit the region.

Marine life around Nuuk is abundant. There are various types of whales during certain parts of the year and fjord seals and migratory seals are plentiful. The open ocean and the fjords are home to a variety of fish. Cod, lumpfish, redfish, and salmon (from around the Kapisillit River) are the most notable harvests. Cold-water prawns are also nearby. It was this marine resource base that attracted early human settlement to the region.

The area around Nuuk had human habitation intermittently for several thousand years. The Dorset people came seasonally prior to 1000 and the Thule people set up permanent habitation beginning in the fourteenth century. Both cultures were attracted to the region as it offered suitable

access to the fish and marine and terrestrial mammals that were the basis of their subsistence (Gulløv 1997). The Norse were here as well from about 985 to 1350. Nuuk is located about 60 km east of the site of Sandnæs, the largest Norse farmstead in the Western Settlement of medieval Greenland. Erik the Red and his colony realized that the region presented good opportunities for animal husbandry, hunting, and fishing. The departure of the Norse left the Thule as the only people in the region until the 1700s. These early cultures, however, did not develop anything resembling a town structure.

The eighteenth century situation brings about the beginnings of urbanization in the region. In May 1721 the Danish-Norwegian missionary Hans Egede came to Greenland intending to bring the Reformation to the “lost” Norse colony. Finding no remaining Norse, he set out to convey the Gospel to the Inuit and he launched the first Lutheran mission and Danish trading post in Greenland on Kangeq Island. After a few years Egede found the windy climate of Kangeq to be less than ideal and relocated his operation to Godthåb (Nuuk) in 1728. Within a few years, the Danish colonial government commenced setting up a number of official settlements in Greenland and selected Godthåb to be the colony’s capital. Figure 5 shows the population of Nuuk (Godthåb) from 1805 to the present.

The Royal Greenlandic Trade Company was established in 1774 to manage Greenland trade and manage the settlements on the island. As time went on, the objectives of religious mission and trade were often at odds with each other. This conflict impacted the pattern of settlements. At first, trade favoured a scattered, nomadic population to bring in resources from the sea. The missionaries favoured congregating the Inuit for conversion. The situation changed in the late nineteenth and early twentieth centuries when the markets for sealskin, blubber, and ivory shrank. The traders and government in Denmark shifted their focus to concentrating the Greenlandic population to develop a commercial fishery (Gad 2014).

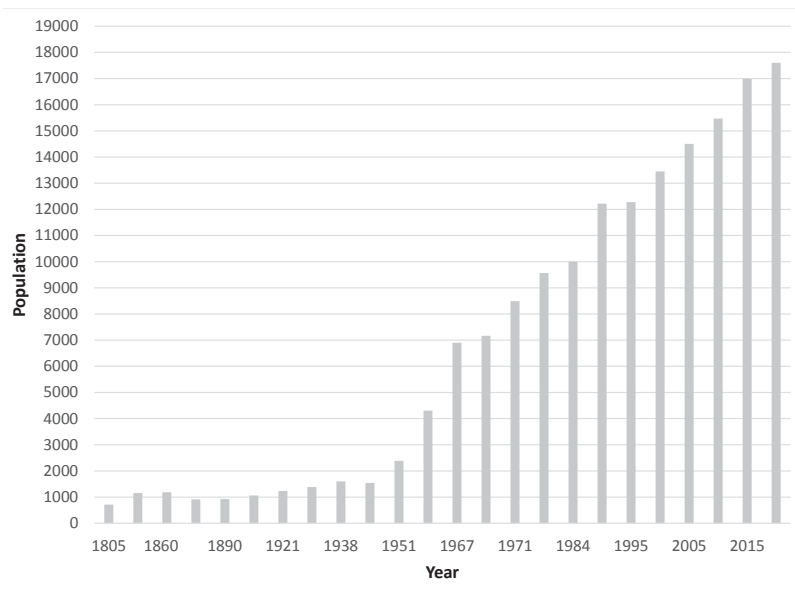


Figure 5. Nuuk (Godthåb) population by year, 1805–2017. (Data sources: Statistics Greenland 2017, and records from the National Museum in Nuuk)

The economic base of many small settlements generally involved the harvesting, transfer, and rudimentary processing of raw materials such as fish, seals, and foxes while utilizing manual labour and minimal technologies such as salting and drying. Such activities generated little revenue (Winther and Duhaimé 2007). In the twentieth century, new economic realities involving infrastructure cost and efficiency, and the expansion of commercial fisheries in Greenland, caused the Danish colonial government to seriously evaluate the future of a number of smaller communities. The Greenland Commission of 1950 (hereinafter called G50) was put together to examine potential problems that existed in Greenland with reference to social, economic, political, cultural, and administrative issues. Their reports discussed a number of concerns that would be evaluated in deciding if a settlement would be closed or if it would continue to function. The main issues dealt with whether or not a particular settlement had the potential to support future population growth. Briefly, the concerns addressed were the following: practicality of development of professional opportunities for the local population, room for new construction, availability of potable drinking water, and the efficiency of the local trading association (personal communication, Mikkel Nohr Jensen, Archivist, Greenland

National Museum, July 2016). The enlargement and modernization of Greenland's commercial fisheries was a prime directive, and this industry was increasingly being concentrated in Nuuk. The ensuing 1960 G60 plan expanded upon the G50 ideas and recommended that some fishing villages that had inadequate production volume or that had issues with a lack of investment in production plants be closed down (Petersen 1995).

Largely because of government directives, the population of Nuuk began to rise dramatically around 1960 and growth has continued to the present day. Some of the out-migration from the outlying settlements to Nuuk was voluntary. But a portion of the migration stream was due to forced relocation. As part of the Danish colonial government's G50 and G60 proposals, several settlements in West Greenland that were judged unproductive and, in terms of infrastructure and power generation, too costly to support, were to be shut down. The residents of these places would be relocated to communities with "better" opportunities (Hayashi 2013; Stefánsdóttir 2014). A number of small settlements along the west coast were impacted. Kangeq and Qoornoq in the vicinity of Nuuk were shut down and their residents relocated to the big city. People could not remain in the villages as the schools and power generating stations were shut down and mail delivery was terminated. Qoornoq's sixty-five residents were compelled to leave in 1972 and the last sixty-four residents left Kangeq in 1974. While many buildings in the villages are still standing today, they are ghost towns. Most of the people from Kangeq and Qoornoq were relocated to Nuuk and found themselves living in small apartments in five-story buildings just outside of Nuuk's central business district. Other small outlying settlements near Nuuk were not closed but saw notable drops in their populations. Neriunaq had seventy-four people in 1950, fifteen in 1960, and today remains as a station with a population of two. The 1950s and early 1960s were a time of prosperity for nearby Kapisillit. The cod fishery was productive, a reindeer domestication venture was having some success, and the village population peaked at 302 in 1960. In the 1960s regional codfish stocks diminished because of a cooling of water temperatures in the area, and there was an epizootic of rabies in the local arctic fox population. These events (situation) severely curtailed the economic support of the community. As a result, a number of residents left the settlement in search of employment, most relocating to Nuuk. The population then underwent a steady decline, falling to 187 in 1970, 127 in

1980, and 86 in 2010 (Madsen 2009). The population in 2016 stood at about sixty-three (Dzik 2016). There are few local employment opportunities in Kapisillit today and many residents are retirees or are recipients of some kind of monetary assistance from the government.

Site characteristics played a small role in the origins and early development of Nuuk, but as it has been demonstrated above it was situational factors that fostered its ascension to primacy in population size and national capacity. It is widely believed that near-term future growth will happen. Greenland's statistics bureau projects that the city's population will reach 22,000 by the year 2031 (McGwin 2017). That is a projected rise of 25% over the current population. New housing developments, new port facilities, a new stadium, some new infrastructure, and an extension of the airport should facilitate the forecasted growth and further ensure population and economic predominance. Regional disparity could increase and these new developments might also enlarge social and cultural distance between Nuuk and other communities.

5. Nuuk and “National Feeling”

The third component of Jefferson's primate city is “national feeling.” The term is ambiguous and subject to interpretation. The interpretation used in this article defines national feeling as the city being representative of the history and culture of the country. This understanding stems from Dickinson (1947) who wrote that a primate city functions as the leader of the country and towns of an extensive hinterland and is a historic focus of economy and culture. In the case of Nuuk and Greenland, history and culture are multi-faceted and intertwine influences and aspects of traditional and modern Inuit society, Danish colonization, and Westernization.

Cultural landscapes can be viewed as living, breathing organisms that have developed over time from the multifactorial influences of an area's physical, cultural, and technological environments (Koreleski 2007; UNESCO 2013). Geographer Carl O. Sauer told us that “culture is the agent, the natural area is the medium, the cultural landscape is the result” (Sauer 1925, 19).

With the infrequent exception of a random turf and stone house, none of Greenland's towns and settlements represent anything like continuity with pre-colonial times. Architecture throughout Greenland is fundamentally Danish. Even some examples of architecture that are

celebrated for their Greenlandic specificity are generally of Danish design, and pre-colonial Indigenous architectural traditions play little role in today's Greenlandic settlements and towns. Even in the smaller towns one will encounter pre-fab structures that are often of imported Western urbanism. Therefore, Nuuk's visible cultural landscape today has its origin in the colonial settlement and reflects development since the early 1700s.

Figures 6 and 7 depict various aspects of the cultural landscape of Nuuk and illustrate the juxtaposition of the modern Arctic metropolis and the colonial settlement, combined with monuments to Greenland's Inuit heritage. Scenes around the city are reflective of modern developments, some effects of globalization, and the bicultural heritage. The city's cultural landscape conveys mixed messages regarding the degree to which Nuuk epitomizes national feeling.



Figure 6. The cultural landscape of Nuuk: a) Colonial district; b) Obviously not a sled dog; c) Flea market in downtown; d) Residential and commercial land use a short distance north of downtown which combines the modern and Danish colonial styles with an indication of the Inuit (hunter's face on the apartment block); e) New apartment buildings near Qinngorput 5 km outside of the city centre; f) The colonial district sits in the shadow of modern high-rises; g) "Mother of the Sea" (Sassuma Arnaa) monument in the colonial harbour; h) "Amisut" (dancing seals) sculpture near the city centre.



Figure 7. The cultural landscape of Nuuk: a) Monument commemorating missionary Hans Egede, the founder of Godthåb (Nuuk); b) Hotel Hans Egede; c) Legend of Kaassassuk sculpture; d) American-made Ford Mustang in an affluent residential area; e) Shopping mall inside Nuuk centre; f) Cemetery inside the city with new construction nearby; g) Royal Greenland facilities in the harbour; h) Small-craft harbourage.

The colonial district situated a few city blocks west of the city centre has an architectural style reflective of that which may be found in small towns and villages along Norway’s western fjorded coastline. Greenland was colonized by the integrated state of Denmark-Norway, a union that existed from 1660 to 1814 with political control centred in Copenhagen. A statue of Lutheran missionary and colony founder Hans Egede stands on a small promontory overlooking the district. Throughout the city there are still some street markers and business signage in Danish, but Kalaallisut

(West Greenlandic) is more commonly encountered. Much official signage was changed with the advent of Greenland Home Rule in 1979. Modern amenities and shopping facilities dispensing European imports are found in the vibrant central city, and one can find evidence of interest in global and American popular culture throughout the city (for example, the author espied several late-model American “muscle” cars around town).

Modern seafood plants, such as Royal Greenland, with a global market are here, and there is suburban growth in nearby locales like Qinnngorput. Throughout Nuuk there is public artwork that reflects Inuit lore such as the “Mother of the Sea” myth and the legend of Kaassassuk, the abused orphan boy who avenged his abusers and went on to do heroic things. At the dedication of the statue “Amisut” (“dancing seals” or “seals together”) Nuuk’s mayor, Asii Chemnitz Narup, said that the monument is a mark of self-introduction and that the symbolic meaning of Amisut is “a whole lot of people pulling a bunch of bunches together ... clear message of self-esteem, togetherness and solidarity”(Kommuneqarfik Sermersooq 2009). There is artwork with Greenlandic Inuit themes such as the image of Poonojorteq (a famed hunter from East Greenland) on several older apartment buildings as well (oddly enough, the artists were from Australia and Iceland and this may be viewed as further indication of globalization in Greenland). On Nuuk’s major thoroughfare, Aqqusinersuaq, across from the Hotel Hans Egede, a flea market appears with some regularity. In addition to the typical wares found in a North American suburban venue (e.g., movie DVDs, children’s toys, small kitchen utensils), special Greenlandic items such as crowberries (Kytberg and Flikke 2015) and auks are found, as graphically described by the following post on a website:

three weathered guys appear and hastily set up a crate-stall on the ground in front of the supermarket. A crowd gathers around them instantly, groping hands reaching in and pulling out black and white seabirds. An old lady comes running over the slippery road and grabs two birds by their dangling necks, holding them up to compare them. Within minutes, all the birds have gone, and all that remains of the impromptu market is a patch of blood-splattered snow. (Rogers 2015)

One thing missing from Nuuk's cultural landscape is the sled dog. Unlike in the towns and settlements of West Greenland above the Arctic Circle and along the east coast, where the only breed allowed is the Greenland sled dog, Nuuk's dog population is eclectic and comprised largely of companion canines.

In a sense there are several "Greenlands." Sejersen obviously believes that Nuuk fits the "Law of the Primate City" as he writes that Nuuk is the "economic, cultural, political and demographic centre for the whole country as such ... but due to its central position in Greenland the town not only reflects tendencies to be seen elsewhere in Greenland but also has impacts on other regions and towns" (Sejersen 2010, 172). However, other readings seem to lessen the clarity. The brochures and websites of tour operators tend to tout places such as Kulusuk and Ilulissat and nearby villages as locations where one can experience the "real" Greenland and get a glimpse of the traditional. On the other hand, such publications generally present Nuuk as a vibrant metropolis that offers shopping, nightlife, and museums in an exotic natural setting where one might also see whales. Tour providers in Nuuk also offer boat excursions to several outlying settlements such as Kapisillit where one can gain "an insight to how Greenland is outside the capital" (Guide to Greenland 2017).

A measure of an anti-urban tendency among native-born Greenlanders appears in some works discussing urbanization in Greenland (Sørensen, Lange, and Holm 2003; Pedersen 2008). The small settlements are often referred to as being "cultural treasure islands" (Forchhammer 1997) and there is anecdotal evidence of this as illustrated by the account of a grandmother in Nuuk who planned to retire in Kapisillit to give her grandchild "the opportunity of experiencing what she referred to as a more genuine Greenlandic way of life" (Sørensen 2008, 128). While older people from Nuuk and other locales may feel that Nuuk is not the "real" Greenland, young adults generally embrace city life and its many amenities. The youth of Nuuk have for the most part distanced themselves from active involvement in traditional pursuits such as dog sledding, kayaking, hunting, and fishing (Rygaard 2003). Throughout Greenland most of the adult men who hunt on a full- or part-time basis are getting older and many Greenlandic young people in this age of the Internet and video games show little interest in learning the rigours of the hunt (Lewis 2015). For most of the young people in Nuuk, the city signifies their vision

of Greenland (Rygaard 2003; Pedersen 2008; Sørensen 2008). While there may be a generational gap in Nuuk regarding national feeling, an outside observer suggests that the city may be the “most indigenous city in the world” as it honours its Inuit heritage “to an extent unprecedented in many cities with higher aboriginal populations” (Daley 2016). Porter (2017) further suggests that Aboriginal peoples whose traditional lands have become urban may continue to keep a connection to their past in ways that characterize the shifting cultural manifestations of that bond. This may be inferred from various cultural markers in Nuuk and from the fact that a few people from Nuuk have weekend and vacation homes in Kapisillit and other outlying settlements, and some retirees have been returning to these villages. Nuuk resident Uiloq Jessen states,

the settlements ... still have a cultural importance ... This is why you can expect that the settlements will continue to be kept alive for a long time. Many people in the settlements still live in a traditional way and the fear might be that especially the Greenlandic hunting traditions and that way of life will disappear. (Jessen 2015)

Conversations and interviews with forty-four residents and former residents of Greenland provide more insights as to the question of “national feeling.” The sample is a “judgment” or “purposeful” sample, a technique sometimes used in qualitative social science research (Marshall 1996). Potential interviewees were selected based on the author’s knowledge of and experience in Greenland, the available literature, and from subjects recommending someone to interview (snowball sampling). The twenty-four male and twenty female interviewees would appear to be a representative sample as they ranged in age from fourteen to eighty-one and included professionals, students, service workers, factory employees, pensioners, and subsistence hunters and fishermen. Seventeen respondents had a connection to Nuuk, twenty-two were persons with ties to other towns and settlements along the west coast, and five had an association with East Greenland. The persons interviewed were told in simple terms about the author’s research into the settlement geography of Greenland, then asked a few “demographic” questions before proceeding to the main question—“Does Nuuk represent the culture and image of Greenland”? Nine (20%) of those surveyed answered with an unequivocal “Yes” and

38.6% believed that Nuuk did not. What is interesting is that 41.4% of the respondents believed that the capital city was representative, but with qualifications. The interviewees were asked to clarify their positions and a sample of responses identified by location is provided below. Interviews were mainly conducted in Danish or English, but in a few cases were done in Kalaallisut with the aid of an interpreter.

I do not believe that Nuuk truly represents the Greenland culture. Some people say that Nuuk is just a Danish town!!! Look away from Nuuk if you want to see the 'Real Greenland'—the fantastic nature and people of Greenland are there ... the original Inuit culture is out of the 'big' town. (Ilulissat)

There is a saying in Greenland outside Nuuk, that Nuuk is a city close to Greenland. Meaning that Nuuk is not really Greenland—I tend to agree. Nuuk is like any other western-city, but it is not Greenlandic. (Narsaq)

I don't think Nuuk is a typical city, but rather a medium-sized Danish town. The Greenland I know and remember from my childhood and youth, I have a hard time finding in Nuuk. (Uummannaq)

No pure Inuit culture are represented in any part of the country anymore. The culture you see in Nuuk is one side of the culture lived in Greenland. Some years ago I was a guest to a party for youngster being confirmed in Qaanaaq. Fourteen different individuals or small groups gave a drum-dance-performance. But the whole show was inspired of a English TV show ... There is no such phenomena as the "real Greenland." (Ilulissat)

Of course it's a very typical Greenlandic city, a multicultural. We have everything a heart could ever desire of food, attractions, et cetera. (Nuuk)

I think that Nuuk represents the new Greenland and the shift in the generations. Nuuk represents Greenland and the Inuit culture. (Kangerlussuaq)

Nuuk represents the modern Greenland. A mixture of the old lifestyle fishing and delivering to factories. And another side full of highly educated people running the Greenlandic economy. People from other places than Nuuk don't see Nuuk as a representative city of Greenland. It may be correct, but depends highly on what glasses you are wearing. Greenland is developing extremely fast, and people in Nuuk adapt very quick to new input from the world whereas people in other cities hold more on the Greenlandic culture. But at some point everyone in Greenland has adapt to the inputs from elsewhere. And things that happens in Nuuk will at some point get to the other cities. (Nuuk)

As would be expected, persons from Nuuk generally saw the city as expressing the national feeling and image of the country and pointed out that Greenland was undergoing a cultural change and that this was a positive transformation. At the same time, several respondents from Nuuk said that it was important to hold on to a connection with the traditional way of life. Respondents from other locales on the west coast had mixed opinions, but tended to perceive their settlements as being more "Greenlandic." All respondents for East Greenland felt that Nuuk was not the "real" Greenland, and that opinion may be influenced by their perception of relative isolation and that, over the years, relations between the East Greenland settlements and the central government of Greenland have generally lacked consistency and usually have favoured the purposes of the government rather than those of the local population (Dzik and Dzik 2016). It must be kept in mind that the sample size is small and the respondents might not be representative of Greenlandic feeling. However, the respondents were from various parts of Greenland and came from various backgrounds—e.g., hunters/fishermen, homemakers, educators, social workers, hotel clerks—and their responses seem to mirror what is found in the literature (Rygaard 2003; Dahl 2010; Daley 2016; Porter 2017).

The results of the three methods employed to evaluate the degree of national feeling embodied in Nuuk all point to a city and country in flux. Not all Greenlandic people would agree that Nuuk reflects the national culture, but it may be inferred that Nuuk in some ways is a symbol of

an evolving Greenland, a country whose heart holds reverence for its traditional culture and values, but whose eyes and hands are fixed upon the future.

6. Conclusions

It is easy to designate Nuuk as Greenland's primate city in reference to population magnitude and its dominance of the economy. The population size, its economic preeminence, and its capital city function are all connected to its site and situational advantages. But does it fulfil Mark Jefferson's point about national feeling? That is a matter of interpretation. Situational changes attracted (and in some instances, forced) people from outlying areas to Nuuk, creating in that city sort of an amalgamation of Greenland; and there are some residents who tenuously cling to some measure of tradition. While the interviews from the settlements outside of Nuuk give mixed signals as to whether this amalgamation is leading to the city being expressive of national feeling, there does not appear to be a lot of outward disdain for Nuuk. This is not always the case for primate cities in other countries. For example, a discussion of Auckland, New Zealand, states: "in the minds of many non-Aucklanders, the city has come to emblemize everything that isn't authentic" (Macdonald 2014).

As Greenland continues to modernize, Nuuk surely will draw more migrants from the settlements and they may reinforce the city's respect for the old ways even as they adapt to the urban setting. The 2004 Arctic Human Development Report stated "many aspects of Arctic worldviews have persisted despite processes of change and replacement" (Csonka and Schweitzer 2014, 45). The Inuit have demonstrated in various geographical settings that they are quite adaptive, and in modern Greenland some town and village residents retain small elements of tradition such as occasionally retelling folk stories, keeping a few sled dogs, and, most noteworthy, having a genuine respect for nature (Stefánsdóttir 2014; Sejersen 2010). Perhaps in time Nuuk will become a fuller representation of modern Greenland's national feeling. If and when that happens, the city will meet all the elements of Jefferson's "Law of the Primate City."

A possible direction for further study could revolve around whether or not Nuuk's "primate city" situation is comparable to other Arctic regions such as Nunavut in Canada or Russia's Murmansk Oblast, both of which have a primate city distribution in terms of population.

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Notes

1. Defining “urban” can be somewhat tricky as there is no international agreement as to what constitutes an urban place. South Africa uses a population of 500, Canada 1,000, the United States 2,500, and India 5,000, but each designation also includes density and employment sector criteria.

References

- Agnew, J.A. 1987. *Place and Politics: The Geographical Mediation of State and City*. Winchester, MA: Allen and Unwin.
- Aroca, P., and M. Atienza. 2016. “Spatial Concentration in Latin America and the Role of Institutions.” *Investigaciones Regionales – Journal of Regional Research* 36: 233–253.
- Berry, B.J. 1961. City Size Distributions and Economic Development. *Economic Development and Cultural Change* 9(4), Part 1: 573–588.
- Berry, B.J., and A. Okulic-Kozaryn. 2012. The City Size Distribution Debate: Resolution for U.S. Urban Regions and Metropolitan Areas. *International Journal of Urban Policy and Planning* 29: 517–523.
- Brea, J.A. 2013. “Population Dynamics in Latin America.” *Population Bulletin* 58(1): 1–40. <http://auth.prb.org/Source/58.1PopulDynamicsLatinAmer.pdf>.
- Brunn, S., J. Williams, and D. Zeigler. 2003. *Cities of the World: World Regional Urban Development*. Lanham, MD: Rowman & Littlefield.
- Campanella, R. 2015. “Louisiana Cities and the Rank-Size Rule.” *Louisiana Endowment for the Humanities*, 66–67. http://richcampanella.com/assets/pdf/article_Campanella_LCV_Spring2015_Rank%20Size%20Rule.pdf.
- Crampton G. 2005. “The Rank-Size Rule in Europe: Testing Zipf’s Law Using European Data.” ERS2005 Conference, Amsterdam, Netherlands, August 2005.
- Csonka, Y., and P. Schweitzer. 2004. “Societies and Cultures: Change and Persistence. In *Arctic Human Development Report*, 45–68. Akureyri, Iceland: Stefansson Arctic Institute.
- Dahl, J. 2010. “Identity, Urbanization and Political Demography in Greenland.” *Acta Borealia* 27(2): 125–140. <https://doi.org/10.1080/08003831.2010.527528>.

- Daley, P. 2016. "Which is the World's Most Indigenous City?" *The Guardian* June 29, 2016. <http://www.theguardian.com/cities/2016/jun29/which-worlds-most-indigenous-city>.
- Danish Meteorological Institute. 2001. "The Observed Climate of Greenland, 1958-99, with Climatological Standard Normals 1961-90." Technical Report 00-18. http://www.dmi.dk/fileadmin/user_upload/Rapporter/TR/2000/tr00-18.pdf.
- Dickinson R.E. 1947. *City, Region, and Regionalism: A Geographical Contribution to Human Ecology*. London, UK: Paul Kegan.
- Dimitrova, Z., and M. Ausloos. 2015. "Primacy Analysis in the System of Bulgarian Cities." *Open Physics* 13(1): 218–225. <https://doi.org/10.1515/phys-2015-0029>.
- Dybbroe, S. 2008. "Is the Arctic really Urbanizing?" *Etudes/Inuit/Studies* 32: 13–32. <https://www.erudit.org/fr/revues/etudinit/2008-v32-n1-etudinit2954/029817ar.pdf>.
- Dzik, A.J. 2016. "Settlement Closure or Persistence: A Comparison of Kangeq and Kapisillit, Greenland." *Journal Settlements and Spatial Planning* 7(2): 99–112. <https://doi.org/10.19188/01JSSP022016>.
- Dzik, A., and V. Dzik. 2016. "Complementarity of Site and Situation: A Case Study of Kulusuk, East Greenland." *Geography Online* 14(1): 1–18. <http://www.siu.edu/GEOGRAPHY/ONLINE/gov14n1a1.html>.
- Elberling, B. 2016. *Det Isfrie Grønland – Fra Molekyle til Landkab.* (The ice-free Greenland – From Molecule to Landscape). Copenhagen: Gydenal.
- Forchhammer, S. 1997. "Gathered or Dispersed? Four Decades of Development Policy Debate in Greenland." PhD Thesis, Copenhagen, Department of Eskimology.
- Gad, U. 2014. "Greenland: A Post-Danish Sovereign Nation State in the Making." *Cooperation and Conflict* 49(1): 98–118. <http://journals.sagepub.com/doi/pdf/10.1177/0010836713514151>.
- Galiani, S., and S. Kim. 2011. "Political Centralization and Urban Primacy: Evidence from National and Provincial Capitals in the Americas." In *Understanding Long-Run Economic Growth: Geography, Institutions and the Knowledge Economy* edited by Costa, D., Lamoreaux, N., 121–153. Chicago: University of Chicago Press.
- Gottdiener, M., and L. Budd. 2005. *Key Concepts in Urban Studies*. Thousand Oaks, CA: Sage Publications.

- Grydehøj, A. 2014. "Constructing a Centre on the Periphery: Urbanization and Urban Design in the Island City of Nuuk, Greenland." *Island Studies Journal* 9(2): 205–222. http://www.islandstudies.ca/sites/islandstudies.ca/files/ISJ-9-2-Grydehoj_0.pdf.
- Guide to Greenland. 2017. Kapisillit Settlement Tour/Nuuk. <http://www.guidetogreenland.com/book-holiday-trips/settlement-tour-kapisillit-nuuk>.
- Gulløv, H. 1997. *From Middle Ages to Colonial Times. Archaeological and Ethnohistorical Studies of the Thule Culture in South West Greenland 1300-1800AD*. Copenhagen: Danish National Museum.
- Hamilton, L.C., and R.O. Rasmussen. 2010. "Population, Sex Ratios and Development in Greenland." *Arctic* 63(1): 3–52. http://scholars.unh.edu/cgi/viewcontent.cgi?article=1185&context=soc_facpub.
- Hayashi, N. 2013. "Cultivating Place, Livelihood, and the Future: An Ethnography of Dwelling and Climate in Western Greenland." Ph.D. dissertation, Dept. of Anthropology, University of Alberta, Edmonton.
- Hendriksen, K. 2014. "Driving Forces in the Greenlandic Urbanization." Sisimiut, Greenland, Proceedings of Artek Event, April 7–9, 2014.
- Hsing, Y. 2010. *The Great Urban Transformation: Politics of Land and Property in China*. New York: Oxford University Press. http://www.saitm.edu.lk/fac_of_eng/RSEA/SAITM_RSEA_2014/imagenesweb/46.pdf.
- Karan, P. P. 1994. "The distribution of City Sizes in Asian Countries." In *The Asian City: Processes of Development, Characteristics and Planning* edited by Dutt, A.K., Costa, F.J., Aggarwal, S., Noble, A.G., 53–70. Berlin: Springer Dordrecht.
- Koreleski, K. 2007. "An Outline of the Evolution of Rural Cultural Landscapes in Poland." *Romanian Review of Regional Studies* 2: 23–28.
- Kommuneqarfik Sermersooq. 2009. Navngivelse af selvstyrepladsen og afsløring af Amisut. <https://sermersooq.gl/da/2009/06/21/navngivelse-af-selvstyrepladsen-og-afsloering-af-amisut/>.
- Kvitberg, T., and R. Flikke. 2015. "Wanting Greenlandic Food": A Story of Food, Health, and Illness in the Life of an Elderly Greenlandic Woman. In *Ageing, Wellbeing and Climate Change in the Arctic: An Interdisciplinary Analysis*, edited by P. Naskali, M. Seppänen, and S. Begum, 181–195. London, UK: Routledge.
- Jayasinghe, A., and M. Dissanayake. 2014. Validity of rank-size rule (George Zipf, 1949) Law of primate city (Mark Jefferson, 1939) and Rank-size class concepts: Case of Sri Lanka. SAITM Research Symposium on Engineering Advancements, Malabe, Sri Lanka, April 26, 2014. http://www.saitm.edu.lk/fac_of_eng/RSEA/SAITM_RSEA_2014/imagenesweb/46.pdf.

- Jefferson, M. 1939. "The Law of the Primate City." *Geographical Review* 1939, 29, 226–232.
- Jessen, U. 2015. "The Challenges of Living in Rural Greenland." <http://www.worldpolicy.org/blog/2015/09/09/challenges-living-rural-greenland>.
- Lewis, J. 2015. "The Seal Hunters of Greenland: A Photo Wssay." *Haikai: Coastal Science and Societies Magazine*, July 27, 2015. bit.ly/1I0qSmr
- Linsky, A.S. 1965. Some Generalizations Concerning Primate Cities. *Annals of the Association of American Geographers* 55(3): 506–510.
- Lyman, B. 1992. "Colonial Governance in the Development of Urban Primacy." *Studies in Comparative International Development* 27: 24–38. <https://doi.org/10.1007/BF02687109>.
- Macdonald, F. 2014. Primate city, *Griffith Review*, Edition 43 Pacific Highways. <https://griffithreview.com/articles/primatocity/>.
- Madsen, J.C. 2009. *Udsteder og Bopladser I Grønland 1901–2000* (Trade stations and settlements in Greenland). Nuuk, Greenland: Forlaget Atuagkat.
- Marshall, M.N. 1996. "Sampling for Qualitative Research." *Family Practice* 13(6): 522–525.
- Martin, G.J. 1961. "The Law of the Primate City Re-examined." *Journal of Geography* 60(4): 165–172.
- McGwin, K. 2017. "Expansion Capital." *The Arctic Journal*. May 31, 2017. <http://www.arcticjournal.com/business/2903/expansion-capital>.
- Mokhtar, B. 2013. "Urban System and Primate City in Oman." *British Journal of Arts and Social Sciences* 13: 84–95. http://www.bjournal.co.uk/paper/BJASS_13_1/BJASS_13_01_07.pdf.
- Naalakkersuisut. 2017. Economy and Industry in Greenland. <http://naalakkersuisut.gl/en/About-government-of-greenland/About-Greenland/Economy-and-Industry-in-Greenland>.
- Nagle, G. 1999. *Changing Settlements. Focus on Geography* 5. Northamptonshire, UK: Nelson Thornes.
- Nagle, G., and K. Spencer. 1998, *Changing Settlements*. Cheltenham, UK: Nelson Thornes.
- Paradis, T. 2003. *Theme Town: A Geography of Landscape and Community in Flagstaff, Arizona*. Bloomington, IN: iUniverse.
- Patton, S. 1983. "Comparative Advantage and Urban Industrialization: Reading, Allentown, and Lancaster in the 19th Century." *Pennsylvania History* 5(2): 148–169.
- Pedersen, B. 2008. "Young Greenlanders in the Urban Space of Nuuk." *Etudes/Inuit/Studies* 32(1): 91–105.

- Petersen, R. 1995. Colonialism as Seen from a Former Colonized Area. *Arctic Anthropology* 32(2): 118–126.
- Porter, L. 2017. “Indigenous People and the Miserable Failure of Australian Planning.” *Planning Practice and Research*, 1–15. <https://doi.org/10.1080/02697459.2017.1286885>.
- Ramboll Group. 2013. “Sustainable Society Development in Arctic Cities.” http://www.ramboll.com/~media/images/rgr/lets-talk-megatrends/arctic/report_sustainable%20society%20development%20in%20arctic%20cities.pdf.
- Rasmussen, R.O. 1999. “Settlement Development and the Formal, Informal and Subsistence Sector in the Arctic.” *Geografisk Tidsskrift* Special Issue 1” 171–180. http://img.kb.dk/tidsskrift.dk/pdf/gto/gto_si01-PF/gto_72550.pdf.
- Reed, R. R. 1972. “The Primate City in Southeast Asia: Conceptual Definitions and Colonial Origins.” *Asian Studies* 10: 283–320.
- Rogers, J. 2015. “Into the Wild: A Week of Nature and Culture in Greenland. *Grapevine Island*.” <https://grapevine.is/travel/travel-featured/2015/12/25/into-the-wild-a-week-in-greenland/>.
- Rygaard, J. 2003. “Youth Culture, Media and Globalization Processes in Greenland.” *Young: Nordic Journal of Youth Research* 11:4: 291–308.
- Robinson, W. 1980. “The Roots of the Southeast Asian Primate City.” *Asian Journal of Social Science* 9(1): 1568–5314.
- Sauer, C.O. 1925. “The morphology of landscape.” *University of California Publications in Geography* 22: 19–53.
- Sejersen, F. 2010. “Urbanization, Landscape Appropriation and Climate Change in Greenland.” *Acta Borealia* 27(2): 167–188.
- Sørensen, B., H. Lange, H. Holm. 2003. Nuuk: Fremmedgørelse I storbyen (Nuuk: Alienation in the city). *Tidsskriftet Grønland* 1: 25–40.
- Sørensen, B. 2008. “Perceiving landscapes in Greenland.” In *Nordic Landscapes: Region and Belonging on the Northern Edge of Europe* edited by M. Jones and K. Olwig. Minneapolis, MN: University of Minnesota Press.
- Statistics Greenland. 2017. Population 2017. <http://www.stat.gl/publ/en/BE/201701/pdf/Population%202017.pdf>.
- Statistics Greenland. 2015. Greenland in Figures 2015. <http://www.stat.gl/publ/en/GF/2015/pdf/Greenland%20in%20Figures%202015.pdf>.
- Stefánsdóttir, M. 2014. “Large Scale Projects in the Arctic: Socio-economic impacts of mining in Greenland.” Master’s Thesis, School of Humanities and Social Science, University of Akureyri. Iceland. http://skemman.is/stream/get/1946/19374/44766/1/MA_thesis-final.pdf.

- UNESCO. 2013. Continuing cultural landscape. <http://www.worldheritagesite.org/tag.php?id=1047>.
- Van Der Merwe, I. 1989. "The Urban Structure of South West Africa/Namibia Viewed within a Third-World Framework." *Geography Research Forum* 9: 109–126. <http://raphael.geography.ad.bgu.ac.il/ojs/index.php/GRF/article/view/64/60>.
- Winther, G., and G. Duhaime, G. 2007. Comparative Societies in Greenland and Nunavut: A Lesson on the Importance of Supporting Structures. *Journal of Rural Cooperation* 30(1): 25–41.
- Zipf, G. K. 1949. *Human Behavior and the Principle of Least Effort*. Cambridge, MA: Addison Wesley.