

Language vitality and sustainability:
Minority Indigenous languages in the Sakha Republic¹

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1. Introduction: The Republic of Sakha (Yakutia)

The Republic of Sakha (Yakutia) is the largest subnational governing region in the world, encompassing some 3,083,523 km², making it approximately 6 times the size of France. Occupying about 18% of the Russian Federation, it covers 3 time zones and climatic zones: Arctic, Subarctic, tundra and taiga, with long winters and short summers. The Republic is known for some of the coldest recorded temperatures, and almost the entire territory is located in permafrost. Approximately 40% of its territory is located about the Arctic Circle.

The Sakha Republic is the largest of the 85 official federal subject/regions/administrative unit (or “subject”) in the Russian Federation but is relatively sparsely populated. Population density is low, not quite 0.32 people/km², with a total population of 971,996 as of 01 January 2020 (984,703 in 2021), and a full two-thirds of the population is urban (*Federal State Statistics*, 2020). The population dropped drastically after the break-up of the Soviet Union but has been increasing annually since 2000, with increasing numbers of people—including immigrants, in particular from Central Asia and the Caucasus, and natives of the Republic—moving into the cities. It is a dynamic demographic situation. There is high migration from Arctic regions to more urban settings due to a combination of factors, including the harsh Arctic climate, low standard of living, and relative poverty, with low wages and high unemployment rates, poor access to medical care, and an overall weaker educational system (Ignat’eva, 2020)

1.1 Sakha as a multilingual, multiethnic region

Data on the ethnic make-up of the RS(Y) is somewhat dated, as the last census data comes from the 2010 All-Russia Census; the scheduled 2020 census was postponed to September 2021 due to the coronavirus pandemic. Drawing from the 2010 Census then, the Republic is home to 126

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different ethnic groups. The largest group by far is Sakha (48.67% or 49.1%), followed by Russian (36.9%); these two comprise 85% of the total population of the Republic. Then there is a significant drop in relative size, as the third largest group is Evenki, constituting 2.19% of the population. The population can be classified into four groups: (1) the regional majority Sakha; (2) the national majority but local minoritized Russian; (3) minority Indigenous; and (4) immigrant and migrant groups. While 15% of the population is thus neither Sakha nor Russian, the local minority Indigenous groups still comprise only a relatively small percentage. Table 1 provides the numbers of the Indigenous minorities in the Russian Federation (RF) according to the 2010 census, with figures for the percentage of the total population in the Republic of Sakha (Yakutia) in 2010 and 2002:

Table 1. Indigenous minority populations, 2010 and 2002

	2010 population RF	2010 percentage RS(Y)	2002 percentage RS(Y)
Russian	118,581,514	37.8	41.2
Sakha	450,000	49.1	45.6
Evenki	37,131	2.25	1.90
Even	21,830	1.57	1.20
Dolgan	7885	0.20	0.10
Yukaghir	1597	0.14	0.12
Chukchi	15,908	0.07	0.06

Adapted from Ignat'eva (2020, p. 23) and All-Russia Census (2010)

As Table 1 indicates, there has been a decrease in the percentage of Russians in the Republic and a general trend in growth of these indigenous groups, Sakha and the local minorities. The growth can be attributed to a number of factors, including the continuing loss of ethnic Russians due to outmigration to other parts of Russia, and continuing increase in the population size of ethnic Sakha. In addition, the increase in the percentage of the population constituted by Indigenous minorities comes thanks to a combination of factors, including not only an increase in birth rate and longer life expectancy, a small level of immigration to the Republic from other parts of Russia and, critically for our arguments here, a positive change in a sense of ethnic identity (Ivanova, 2020). There are a number of factors that make the Republic attractive for relocation, such as higher rates of employment in Yakutsk, which serves to attract laborers, both temporary seasonal and permanent immigrants. The relative high density of indigenous minorities, as opposed to many other parts of the Russian Federation, and education and language policies that are supportive of non-Russians, make the Republic of Sakha an appealing place for relocation for these groups. In particular the *Language Law of the Republic of Sakha (Yakutia)* grants official status to the Sakha language throughout the Republic, and to local indigenous languages (Chukchi, Dolgan, Even, Evenki and Yukaghir) in those regions where the ethnic populations live densely. This official recognition of the rights of languages other than Russian makes the Republic one of the more hospitable regions in the Russian Federation for minorities.

2. The Sakha Language: A minoritized majority language?

The Sakha language and people are a strong presence in the Republic and form an essential component of the sociolinguistic ecology, both at the level of the Republic and at more local levels (in cities, towns and villages). That is, Sakha culture is part of the fabric of life for all residents, Russians, immigrants and Indigenous minorities, even for those living in Indigenous-dominant villages. Historically, the Sakha language was a lingua franca for the region, with not only minority peoples learned the language but also Russians. Imperial Russia had a relatively lax language policy, not paying much attention to the language situation in location so distant from Moscow. This changed radically in the Soviet period, which began with focused attention on “developing” the languages and peoples of the Russian Far East and North, and changed over time to be largely Russocentric. By the late Soviet period, use of Sakha was actively repressed, and Russian promoted to the exclusion of all other languages (Grenoble, 2003; Wurm, 1996). These policies led to language shift and to lower prestige for the language even among ethnic Sakha. The post-Soviet years have been characterized by changes in language attitudes to be more positive and embracing of Sakha language and identity, bringing about renewed interest in cultural and linguistic revival (Ferguson, 2016, 2019; Ivanova, 2020). Nonetheless, recent years see a downward trend in language proficiency among youth, with shift to Russian. A pilot study conducted in 2017 showed that from a sample of 30 first and second-year university students, all of whom identified as ethnic Sakha, 4 could not produce texts, and a third produced texts with errors, as assessed by fully proficient Sakha speakers (Grenoble et al., 2019). A sociolinguistic questionnaire that asked them to assess their own abilities in Sakha showed their self-assessments to be fairly accurate: those who reported weaker abilities could not produce texts and showed more errors in simple production tasks where they were provided the lexical items need to formulate sentences. Anecdotally, local faculty report ongoing decline in language knowledge and proficiency among entering students since the study was conducted.

In many of the Soviet successor states, such as Belarus, the national majority language has been labeled a *minoritized majority language* because it is marginalized and perceived as underdeveloped, without prestige and inferior to Russian (Ozolins, 2003; Pavlenko, 2008). These attitudes reflect a power differential—social, economic and political. This is a carryover from Soviet language policies that promoted asymmetric bilingualism, favoring Russian over all other languages.

Can Sakha be construed as a minoritized minority language? Arguably yes. Within the Republic of Sakha (Yakutia), it enjoys official status and is the regional majority. But it stands in juxtaposition to Russian, and is overshadowed by the political and economic power of Russian, its dominance in educational institutions and the media. Russian’s status as the sole national language and lingua franca of the country, and it carries prestige as the majority language. Russian has so many more speakers, even L2 speakers of Russian outnumber L1 Sakha speakers by more than 40 times: in 2010 there 18.9 million L2 speakers of Russian in the Russian Federation (versus 450,000 speakers of Sakha). Thus it dominates at every level except where there is strong resistance by Sakha people who make a strong commitment to using Sakha the Sakha language in all domains where they have control over the language choice.

3. The Model

In this paper we use the Language Vitality Network Model (LVNM) proposed in Grenoble and Whaley (2020) as a theoretical approach to the study of the language ecologies in the Sakha Republic. The model proposes that language practices are embedded social practices, a claim that is not controversial in much of social science but is rarely operationalized in linguistics. The LVNM is dynamic in nature, recognizing and attempting to model the fluidity of language practices. This is an obvious outcome of multilingual societies, where different speakers have different linguistic repertoires and invoke them in varying ways, depending on a complex set of factors, including their interlocutors, the domain, social setting, and the topic of conversation. Thus language practices are tied to social practices; a social practice is represented in the model as a higher order node. Critically, for our purposes here, these nodes are interconnected, and disruption in one part of the model can cause disruption in other nodes, or domains. That is, changes in social practices can have an impact on language use, and vice versa.

A useful heuristic for identifying nodes in the context of the Republic of Sakha is to turn to the framework developed in the Arctic Social Indicators Reports (Larsen et al., 2010; Larsen et al., 2014). This project builds upon the preliminary work by the Arctic Human Development Report (AHDR I) and the United Nations Human Development Index (UN HDI) which identified a core set of indicators to evaluate Arctic well-being across six domains: 1) cultural vitality; 2) contact with nature; 3) fate control; 4) material well-being; 5) education; and 6) health/population. A summary of the technical definitions for each of these indicators is given in ASI-II (Larsen et al., 2014: 36), adapted here in Table 2:

Table 2: Definitions of Arctic Social Indicators by Domain

Cultural vitality: language retention: percentage of a population that speaks ancestral language

Contact with nature: consumption of traditional food as a per capita intake of traditional food harvest of traditional food (total weight harvested in given period)

Fate control: political control: percentage of indigenous/local peoples in governing bodies;
control over land/resources: percentage of surface lands legally controlled by indigenous/local inhabitants;
economic control: percentage of public expenses generated within the region raised locally;
control over knowledge construction (= language retention rate) is a percentage of a population that speaks its ancestral language.

Material well-being: per capita household income

Education: post-secondary completion rate

Health: infant mortality: number of deaths under one year of age per 1000 live births;
net migration: difference between in-migration and out-migration.

The indicators serve as diagnostics, representative measures for a given domain that can be used to gauge the overall strength of that domain. For example, infant mortality serves as one diagnostic for the overall health of a community; per capita income is a useful measure to gauge overall economic and material well-being. The domains and indicators here derive from surveys conducted in Arctic populations that show that *contact with nature* and *fate control* are core values held by Arctic Indigenous peoples.

Language is a core indicator that cuts across several different indicators, including not only cultural vitality but control over knowledge construction, and it is an integral part of education. Contact with nature is considered to be an indicator of well-being and, concomitantly, maintaining a traditional lifestyle is a factor that supports use of indigenous languages. Moreover, for Indigenous peoples, language and place (land, or sea in coastal communities) are deeply intertwined and cannot be separated; language is part of place, and together form the core of indigenous identity (Perley 2021; Zenker 2018).

Thus, the identification of core domains and values here relies on broad analysis of Arctic populations. The list of relevant domains could be expanded considerably and along multiple dimensions in a full implementation of the LVNM. Here we confine the use of the model to consider the balance of stressors and protective factors with specific regard to language vitality and usage in the Sakha Republic. The LVNM presupposes that disruption in one part of the network results in disruptions elsewhere. If we adapt these indicators to serve as major nodes in the LVNM, and consider the impact of modern stressors on speaker communities, we can see disruption across all arenas. In Section 3 we show that these stressors are pervasive throughout the Sakha Republic. Where language (and culture) are robustly maintained, we postulate that vitality is supported by a set of protective factors. These can be taken each in turn in Sections 3.1 and 3.2.

4 Stress Factors in the Russian North and the Sakha Republic

A number of stressors have been identified for Arctic communities (Carson & Peterson, 2016; Larsen et al. 2014). Here we focus on those stressors which seem to be most salient today for Indigenous communities, based on the stories and accounts we hear during fieldwork. We hear similar themes in different places, and have chosen to focus on these particular themes. These differ from some other parts of the Arctic. For example, in Alaska and Canada many people speak of colonization but few discuss the impact of World War II, and the opposite is true in Russia. In the same vein, in some parts of the Sakha Republic we are more likely to hear stories about the labor camps, but in other regions only sporadically, whereas the stressors listed here were repeatedly brought up, in different regions and by different ethnic groups, including Sakha.

We divide the stressors into two categories, *historical trauma* and *modern stressors*, although the labels are somewhat misleading inasmuch as historical trauma has ongoing, continuing effects and is relevant in modern times.

4.1 Historical trauma

The factors listed here are well-known stressors throughout the Arctic. Particulars vary throughout the circumpolar region: Sami in Norway experienced significant displacement during WWII and Nazi scorched earth policies left continuing reminders in the landscape of their settlements today, something that Alaskan Indigenous peoples did not experience, as just one example (Grenoble, 2018).

World War II

World War II had a profound and lasting impact on the Indigenous peoples of northeastern Russia; Turaev (2015) argues that its detrimental effect was far greater than the Bolshevik Revolution or the political repressions of the 1930s and 1960s-1970s. Many Indigenous men were conscripted to

fight in the Soviet army. There was a particular need for literacy in Russian, and so areas in the southern part of the Sakha region and to its south were more deeply affected, where education rates and acquisition of Russian (written and spoken) were higher than in the far north (such as Chukotka).

The conscription of Indigenous men had a major negative impact on the demographics on what were already small populations, which became even smaller as the males left to join the military. Conditions for those who stayed behind were grim, as the Soviet government was engaged in war, and it essentially left the far northern communities to fend for themselves, with medical personnel being sent to the war effort (Turaev, 2015). The people we encounter living in villages in the Sakha Republic told many stories of efforts to help the war effort (such as knitting mittens that we shipped to the front), and many more stories of hardships and hunger. Food in far northern regions is scarce to begin with, and people had stories of how meat and fish were confiscated by local (Soviet) officials who ostensibly shipped it off to feed the army. What is striking is the long-term effects of the war, and how it is still fresh in the minds of people living some 6 time zones away from Leningrad (now St. Petersburg), which was directly under siege.

There are no exact figures, as ethnicity was by and large not recorded in conscription lists, although some approximations can be extrapolated from what we do know. These measures indicate that more than 8 percent of the total population of Nanai and Ul'ch joined the army, and the percentage of Even, Evenki, Nivkh, Oroch and Udihe was not far behind. This left these communities without working age men, and of course a significant number did not return from the war. One major change was in the gender imbalance. Prior to the war, the ratio of men to women was 100 to 97 in Indigenous communities, which subsequently flipped, so that by 1959 adult women outnumbered men, especially in the age range 34-44, with the ratio of 100 men to 107 women across Indigenous peoples in the northeast. The net result was drops in birth rates and further decreases in population size. Beyond the devastating social implications, this had a major impact on the languages spoken by these people. Beyond the simple reduction of the speaker population, the gender imbalance fostered more intermarriage, and ensuing language shift.

Boarding schools

Part of the historical fabric of the experience of many Indigenous groups throughout the Russian North is the boarding, or residential, school system. As in North American and other parts of the world, children were forcibly taken from their parents and put into schools. By the post-WWII period, if not sooner, the schools were actively repressing use of Indigenous languages; see Liarskaya (2013) for a succinct overview of the chronology of boarding schools in the Soviet and post-Soviet periods. In addition, the children who attended the schools were Russified, linguistically and culturally, and isolated from their homes and families. We have heard many stories about these experiences, from people who were punished and mocked for using their language, and who never quite fit in anywhere, assimilating to the majority language and culture but not becoming Russian, and feeling out of place when they returned to their homes, no longer Chukchi or Evenki. But we also know people who maintained their language and strong family ties despite the boarding school experience. And others told us that the school system helped support families more than many know, as the children received stipends and rations that they were able to send home to support their families.

4.2 Modern stressors

Climate change

Changes in climate and weather have created serious difficulties for residents in the Sakha Republic and are one of the main drivers of urbanization, as life in the villages or living off the land (hunting, fishing, herding) becomes less viable and increasingly stressful (Crate 2013; Dets 2020; Dybbroe et al. 2010). Studies conducted over a 50-year period from 1996 to 2016 show an increase of annual temperature of 0.3-0.6°C every 10 years, due primarily to higher temperatures in winter months. At the same time, changes in annual precipitation show an increase in approximately 70% of Sakha territory, with the greatest increases in southern regions, and a decrease in precipitation of about -15mm/year in the tundra regions (Gorokhov & Fedorov, 2018).

These average changes mask the unevenness of the changes, so that in the western part of the tundra zones, the mean temperature in January increased by 5°C. Taken as a whole, these changes have had a serious impact on the state of permafrost in the Sakha Republic. And they have affected the people living there significantly, who point to cold storage in the permafrost that is now dripping, not solid ice, and flooding, flooding with standing water for weeks on end. People also remark on rising temperatures, even in the winter. One woman reported that in January it typically got down to -59°C and stayed there for weeks, but in recent years the cold snap lasted only a few days and it warmed up to -53°C, as just one concrete example. People did not embrace this warming, because it came together with a number of troubles. The unpredictable weather has resulted in floods, summer fires and major snowfalls. In conducting fieldwork in the Srednekolymsk Region in Spring 2019, we heard many stories and woes about extremely large snowfall in the winter of the previous year. Even in the village of Berezovka reported how the herds of elk and reindeer had perished in the snow, and in the Sakha-dominant village of Nalimsk people told many horror stories of horses drowning in the snow. Flooding was a major theme in 2019 as well.

Urbanization

Urbanization is a global trend and is proceeding rapidly in the Republic of Sakha, serving at once as solution to, or escape from, the problems that plague small, isolated villages in the Republic, as well as being a major stress factor. Over the course of the last 20 years the local language ecologies in the Republic of Sakha have changed significantly. Urbanization is a key factor in these changes. Yakutsk is the fastest growing city in the Russia North (Heleniak, 2017), with a population increase from 229,951 in 2002 to 311,760 in 2018. Urbanization has had some positive effect on Sakha language usage in Yakutsk, as Sakha-dominant speakers have moved from more remote areas to Yakutsk, increasing the number of L1 speakers in the city (Ivanova, 2021), but at the same time there has been massive migration to Yakutsk by speakers of other languages from other parts of the country, drastically changing the local language ecology. Moreover, simply living in a city can be a stressor for indigenous people (Grenoble 2020).

A number of other stressors could be added to this list, including health issues, substance abuse, food security and reliable and predictable employment. Recent years have seen an increase in catastrophic fires during summer months in the Sakha Republic, which cause immediate damage in terms of air quality, but have longer lasting consequences in melting permafrost and carbon

emissions (Pohl et al., 2020). And concomitant to changes in climate and fires has been a marked decrease in reindeer and elk populations. The latter represents a major stressor for those Indigenous peoples who live a subsistence or semi-subsistence lifestyle and rely on herding and hunting to eat.

Industrialization and resource extraction have taken a major toll on Indigenous communities, and those communities living in industrial areas are often assimilated, even take it for granted that they are. Diamonds, gold and oil are all found in parts of the region in abundance. Development of these resources is such a fundamental part of life in the Sakha Republic as a whole that it is rarely presented to us as a stressor but rather is presupposed as part of the social setting, and an unavoidable cause of language shift.

5. Protective Factors and the LVNM

In this section we examine protective factors in order to understand the means by which minority Indigenous communities have continued to survive. One key factor is isolation. While isolation can make access to goods, medical care, and other services problematic and unreliable, it has also served (historically and to the present day) as a buffer against assimilation and external influences.

Working again from the core set of indicators identified in Table 2, we see a number of potential protective factors for Indigenous language vitality within our framework, including cultural vitality and ethnic identity. Although it may appear circular, the two are deeply intertwined, and strong cultural vitality fosters a strong and positive sense of ethnic identity, and vice versa.

There is a clear connection between the protective factors and the stressors and where the balance between the two lies (or does not). Contact with nature is a core value of Indigenous communities; the loss of opportunities to have close or frequent contact with nature is a natural result of industrialization and urbanization, which are themselves stressors in and of themselves. So, the presence of stressors can increase stressors in other areas, while protective factors can promote other protective factors. These interconnections may have mixed results. Isolation can provide a community with greater independence and less contact with outsiders, but also make more vulnerable to changes in climate, as an example, where sudden changes can be nearly impossible to plan for and can result in extremely dangerous situations (fires, flooding, loss of herds means a direct loss of the food supply).

6. Minority Indigenous Languages

Use of one's native language is guaranteed in the Sakha Republic. Its language law of 16 October 1992 N 1170-XII "On the languages of the Republic of Sakha (Yakutia)" recognizes the status of Russian as a national language and as an official language of inter-ethnic communication alongside the Sakha language which is an official state language (Articles 2 and 3). In addition, a number of minority Indigenous languages have special status in the Republic: Chukchi, Dolgan, Even, Evenki and Yukaghir (classified here as one language) have a status on par with Sakha in those areas where the populations live densely, or compactly (Article 5). This status gives them certain rights and a certain visibility in society, and serves as a protective factor, in principle at least. The position of the Indigenous language changes in those places where the people do *not* live in high density, namely, in cities. Thus urbanization has this additional consequence on language vitality by

removing (or annulling) the protected status of the language. Nonetheless, these groups still enjoy recognition throughout the Republic and an elevated prestige for that reason.

6.1 Case study: Even

As a case study to illustrate the situation in detail, we take the case of Even (ISO 639-3 eve), a Tungusic language that is one of the 5 Indigenous minority languages with official status in the Sakha Republic. 72% of all Even live in the Republic; it is their homeland. Although Even is under serious pressure from both the Russian and Sakha languages, one of the big questions is why the language is so robustly maintained compared to other minority Indigenous languages? We can make a quick comparison with the other minority indigenous languages in the Republic in terms of percentage of the total population which speaks the language, given in Table 3:

Table 3. Speakers of indigenous minority languages and percentage of ethnic population

<i>group</i>	<i>speakers</i>	<i>percentage (speakers in ethnic pop.)</i>	<i>number in SR(Y)</i>	<i>percentage in cities SR(Y)</i>
Chukchi	5095	32.0%	670	26.1%
Dolgan	1054	13.4%	1906	13.6%
Even	5656	26.1%	15,071	33.7%
Evenki	4802	12.5%	21,008	39.1%
Yukaghir	370	23.1%	1281	43.6%

Source: 2010 All-Russia Census, 2010

The numbers of speakers is quite certainly inflated, depending on how one defines a speaker. Field linguists put the total numbers much lower; specialists estimate only 20 or so speakers of the Yukaghir languages combined, for example. But these are the official census data and provide a snapshot picture of what people reported at that time. Putting aside Chukchi, which is primarily spoken in the Chukotka Autonomous Okrug and quite remote, we see that Even language retention is relatively high. There is not an absolute correlation between language retention and urbanization, in part because the problem is further complicated by the speaker population size. The smaller groups are more vulnerable. And yet Even stands out in terms of population size and overall retention, and it is striking that in the 2010 Census more people self-reported as Even speakers than Evenki, despite the significantly larger Evenki population. What is Even retention higher? What factors support Even vitality? What is the role of language in the daily lives of the Even people?

One preliminary answer is basic isolation. Even live, by and large, further north than Evenki. The village of Berezovka, where language retention has been high, is renowned for its near complete isolation into the 1950s. This is one factor that has helped them maintain language and cultural vitality longer, than Even living in other regions (Robbek, 2005). Yet Even today, even in Berezovka, are leaving their villages in high numbers, for a variety of reasons. These include a desire for improved living conditions and economic advancement, and access to education, goals directly in line with the needs identified in the Arctic Social Indicators report. Another motivation is to unite with family members, who have already moved to a city for these reasons. And in the

last decade or so, extensive flooding has made many homes uninhabitable, forcing people to relocate. This is particularly true in Berezovka, which has been experiencing destructive flooding since 2002 (Filippova, 2017). In 2017 a massive flood destroyed 37 homes, the childcare center, the local hospital, administrative buildings. Whereas some families moved to higher ground in the village, many left for the city.

The stressors given in Section 2.1 all apply to the Even situation. They are currently undergoing radical cultural and social disruption. Although the Even people have been living for centuries in multilingual communities, urbanization brings different kinds of language contact. Historically contact with other Indigenous groups, often Chukchi, Evenki and/or Yukaghir, and these neighbors generally had some command of Even. Now Russian has replaced these local languages and serves as a lingua franca for different groups, including Sakha. In 1989 22 percent of Even lived in urban areas; by 2010 this number had grown to 33.7 percent, and there is every reason to believe it has significantly increased since then (All-Russia Census, 2010; Burtseva et al., 2014). In cities and large towns, Russian and Sakha dominate, and do other (non-local) languages. In particular, immigrants to the Republic of Sakha have brought their languages with them, and in a city like Yakutsk (home to approximately one-third of the Republic's total population), there are significant numbers of immigrants from other parts of Russia and Soviet successor states. There are currently more Kyrgyz and Buryats in the Republic than Even.

It is not just the languages involved in contact, but the nature of multilingualism has changed radically. Whereas previously language contact took place in face-to-face, person-to-person encounters, now the domains have changed and much is over the Internet, television, cell phones and social media have all transformed how people engage in multilingual practices (Aronin & Singleton, 2008; Cenoz, 2013). Input can be unidirectional, not bidirectional as in face-to-face conversation, and participation in these practices can be quite passive, such as watching a YouTube video or other online entertainment. This means that languages can easily enter the home even when they are not spoken in the vicinity of the recipient, i.e., not spoken in an individual's neighborhood in the Sakha Republic. A prime example is English, which can easily enter homes of Indigenous communities in the far north. A survey we conducted in 2017 found that English is the prime language for young people in Yakutsk when playing online video games.

These practices can thus facilitate language shift, but they can also support the use of local minority languages. They enable more people to participate in more languages even when they are not in the same location, and even when not all interlocutors understand them. Consider the context of ongoing conversations that span months from a Whatsapp group with approximately 30 people, a group that communicates in conjunction with a major research project. The participants write sporadically, at times intensely with multiple people writing in one thread, while at times a single individual posts information. The participants all use Russian as the primary language, but content (and especially greetings) is often in Sakha, sometimes Even, sometimes English, depending on the user and indexicality, regardless of whether the recipients can understand the specific language. An illustrative example is the Whatsapp message in (1), which uses 4 languages in a single message. The group is multilingual and multiethnic, and the research project that unites them focuses on building language and cultural vitality. Thus it is a set of users who view multilingualism favorably, and in that sense is a space for multilingual practices. The original text in the message is given in italics; note the use of two scripts and non-standard orthography for Even:

- | | | | |
|------|---------|---|---|
| (1a) | Even | <i>Төөнкэриву А.В.! Дуус мэргэндукуй
балдача инэнгидис эскэрэм!
Tööngkërivu A.V.! Duus
mèrgèndukuï baldacha inèngidis
èskèrem</i> | ‘Dear A.V.! Deep from the
heart I celebrate your birthday!’ |
| (1b) | | <i>Абгар, несэлкэн били!
Abgar, nesèlkèn bili!</i> | ‘Be healthy and happy!’ |
| (1c) | | <i>Дьулэски аит бинив дьулиттэм,
мээни одьаникан биддэс ньан.

D’ulèski ait biniv d’ulittèm, mèèni
od’aninkan biddès n’an.</i> | ‘Wishing you a good life in the
future, and that you will take
care of yourself.’ |
| (1d) | Russian | <i>Уважаемая А.В., от всей души
поздравляю Вас с днем рождения!

Uvazhaemaia A.V., ot vseï dushi
podravliaiu Vas s dnem rozhdeniia!</i> | ‘Dear A.V., congratulations on
your birthday from my whole
heart!’ |
| (1e) | French | <i>Joyeux anniversaire!</i> | Happy birthday! |
| (1f) | English | <i>Happy birthday!</i> | Happy birthday! |

The intended recipient, A.V., does not speak Even, but Sakha and Russian. The use of Even in lines (1a)-(1c) indexes the author’s identity as an Even user. The switch to Russian in (1c) provides a translation of the first line of the message (1a), but not line (1b-c), which the writer could not hope that A.V. would understand. The lack of Sakha in the message suggests that the writer is not proficient in it. However, she does switch French in (1e), which at least indexes the addressee’s identity as a specialist in the French language. It is unclear from the text whether the conclusion in English is to index the recipient’s location at the time the message was sent, when she was in Montreal, a bilingual French/English city, or as a nod to the Anglophone members of the list. Or perhaps it is just an enthusiastic flair, concluding the multilingual posting with yet another language, the global lingua franca.

Subsequently in the same thread, after several more greetings in Russian, another writer submits the following message in (2) to accompany the picture and in Figure 1:

- (2) *Дорогая А.В., примите поздравление на татарском языке 😊*
 Dorogaia A.V., primite pozdravlenie na tatarskom iazkye
 Dear A.V., accept [my] congratulations in Tatar 😊



Figure 1: Birthday card in Tatar

Туган көн белэн!
Tugan könen belèn!
'Happy birthday!'

The context of the birthday greeting makes the content understandable, even if the exact wording is not. This is particularly true in the Even text in (1), but here the exact sentiment is not as important as the length of the text, which signals that the author is a proficient user of the language. Both messages are visible to the entire group, who are listeners but not the intended recipients in this instance, and the author most certainly knows that some of them are proficient in Even. Her writing here is not standard, and does not follow standard orthographic conventions for Even, which would be visible and legible to anyone proficient in Even on the list. The unconventional (vis-à-vis the standard) writing suggests that the writer may come from a western Even dialect zone, where people are known to use non-standard writing; its usage indexes a western Even identity.

These are simple examples to illustrate how multilingual spaces are created in new domains. These spaces, and practices, are dynamic and fluid, changing with the topic and across individual users. They provide a partial solution of how to create domains for language usage when the speakers no longer see one another on a regular basis, when speakers are no longer neighbors and have minimal opportunities for unplanned face-to-face communication, and when they are embedded in a larger community dominated by the use of other languages.

7. Discussion

Language cannot be extracted from the sociolinguistic ecology of its users. The LVNM provides a theoretical apparatus for modeling this interconnected system of cultural practices, and how the different parts of the systems affect one another. In examining the stressors which Indigenous people in the Sakha Republic face on a daily basis, we find populations undergoing sustained stress. These populations are not positioned to eliminate the stressors themselves. Concretely, climate change has a direct and immediate impact on their lives and well-being; people can only react to its effects, they cannot stop it. In the LVNM model, disruption in one part of the model causes disruption in another. Indigenous people in the Sakha Republic are living under a constant barrage of stressors, and the resulting disruption is massive.

The situation of Even indicates the critical importance of features such as a strong sense of ethnic identity and value of one's ethnic heritage and culture as protective factors to offset the effects of these stressors. Positive language attitudes reflect a sense of positive self-worth, and these are essential indicators of cultural well-being. Bolstering positive attitudes becomes all the more important in urban settings, where they do not have access to some of the critical components that they independently identified as important for well-being (such as contact with nature and the ability to engage in traditional activities like hunting, fishing, herding). Increasing pressure from climate change means that every year, more Even move to the city. Many migrate to Yakutsk, the capital and home to approximately a third of the population of the Sakha Republic, where they must work deliberately to maintain a sense of community in a multi-ethnic city that is the epicenter and crossroads for migration and international travelers to the region. Social networks, in-person and virtual, gatherings and celebrations of Even festivals, are critical to maintaining a sense of self. Whatsapp groups are very popular, uniting Even from all regions, facilitating a virtual social network that creates unity across great distances. Even enthusiasts take advantage of social networks to come together; people use these spaces in particular to connect with elders to learn about language and culture.

There is a strong commitment to creating and maintaining sustainable spaces for Even language usage even in Yakutsk. The musical ensemble *Dolgchuncha* ('the Wave') provides the opportunity to participate in Even culture as performers or audience, and recent years have seen a surge of young artists who dance and sing in Even. There is a local society of Even from Berezovka, a far northern, Even-dominant village known for strong language usage. As climate and economic factors have uprooted people from Berezovka to Yakutsk, they continue as a community in the city thanks in part to this group. Critically, researchers at the Yakutsk branch of the Russian Academy of Sciences² are focused on activities that promote language and cultural vitality, including the creation of textbooks and other pedagogical materials and the creation of a digital archive of audio and visual materials. They support a folklore school *Mengnen toren* ('the Golden Word'), among other activities that foster the use of the language, culture and folklore.

Such measures highlight the need for creativity and commitment to maintain robust language usage and cultural identity. To support the sustainable development of Indigenous languages of the North in an urbanized setting, we need to work systematically to preserve a sense of ethnic identity; to teach and use the mother tongue beginning at an early age, preferably at home from birth, with further support in childcare and educational institutions; and to create the linguistic and cultural conditions for vitality. Language vitality is part of overall social and cultural vitality, and is deeply tied to well-being.

References:

All-Russian Census 2010. *Vserossiiskaia perepis' naseleniia 2010 goda*. Rosstat.
http://www.gks.ru/free_doc/new_site/perepis2010/croc/perepis_itogi1612.htm

Carson, M. & Peterson, G. (Eds.). (2016). *Arctic resilience report*. Stockholm: Stockholm Environment Institute and Stockholm Resilience Centre. <http://www.arctic-council.org/arr>

² The Institute for Humanitarian Research and North Indigenous Peoples Problems of the Siberian Branch of the Russian Academy of Sciences

- Cenoz, J. (2013). Defining multilingualism. *Annual Review of Applied Linguistics*, 33, 3-18. <https://doi.org/10.1017/S026719051300007X>
- Crate, S. (2013). Climate change and human mobility in Indigenous communities of the Russian North. Brookings Institute. <http://www.brookings.edu/research/papers/2013/01/30-arctic-russia-crate>
- Dets, I. (2020). Possible impact of global warming and other factors affecting migration in Russia with emphasis on Siberia *Quaestiones Geographicae* 39(3),111-123. <https://doi.org/10.2478/quageo-2020-0026>
- Dybbroe, S., Dahl, J. & Müller-Wille, L. 2010. Dynamics of Arctic urbanization. *Acta Borealia* 27(2): 120-124.
- Federal State Statistics (Federal'naia sluzhba gosudarstvennoĭ statistiki). (2020). Chislennost' postoiannogo naseleniia na 1 ianvaria. <https://showdata.gks.ru/report/278928/>
- Ferguson, J. (2019). *Words like birds. Sakha language discourses and practices in the city*. Lincoln: University of Nebraska Press.
- Ferguson, J. (2016). Code-mixing among Sakha-Russian bilinguals in Yakutsk: A spectrum of features and shifting indexical fields. *Journal of Linguistic Anthropology*, 26(2), 141-161. <https://doi.org/10.1111/jola.12123>
- Filippova, V.V. (2017). Èveny Berezovki v usloviakh navodneniĭ: iz opyta sedenterizatsii. *Sovremennaia nauka: Aktual'nye problem teorii i praktiki Seriya: Gumanitarnye nauki* 12: 84-88. <http://www.nauteh-journal.ru/index.php/ru/--gn17-12/4030-a>
- Gorokhov, A.N. & Fedorov, A.N. (2018). Current trends in climate change in Yakutia. *Geography and Natural Resources*, 39, 153–161. <https://doi.org/10.1134/S1875372818020087>
- Grenoble, L.A. (2020). Urbanization, language vitality and well-being in Russian Eurasia. In M. Romaniello, J. Hacking & J. Hardy (Eds.). *Russia in Asia: Interactions, imaginations, and realities* (pp. 183-202). Oxford: Routledge.
- Grenoble, L.A. (2018). Arctic Indigenous languages: vitality and revitalization. In L. Hinton, L. Huss & G. Roche (Eds.). *The Routledge handbook of language revitalization* (pp. 345-354). New York: Routledge.
- Grenoble, L.A. (2003). *Language policy in the former Soviet Union*. Dordrecht: Kluwer Academic Press.
- Grenoble, L. A. & Whaley, L.J. (2020). Toward a new conceptualisation of language revitalization. *Journal of Multilingual and Multicultural Development*. <https://doi.org/10.1080/01434632.2020.1827645>

- Grenoble, L.A., Kantarovich, J., Khokholova, I., & Zamorshchikova, L. (2019). Evidence of syntactic convergence among Russian-Sakha bilinguals. *Survremena Lingvistika*, 87, 41-57. <https://doi.org/10.22210/suvlin.2019.087.05>
- Ignat'eva, V.B. (2020). Demograficheskoe razvitie Iakutii: osnovnye pokazateli, tendentsii i problemi. In V.B. Ignat'eva (Ed.) *Ėtnosotsial'nye protsessy v Iakutii: Sovremennyĭ rakurs i perspektivy razvitiia* (pp. 18-33). Yakutsk: IRHISN SB RAS. <https://doi.org/10.25693/monogr/ethnosociology/2020>
- Ivanova, N.I. (2020). Sovremennye tendentsii v iazykovoi kompetentsii iakutov (sakha): lingvisticheskiĭ i ěkstralingvisticheskiĭ kontekst. In V.B. Ignat'eva (Ed.). *Ėtnosotsial'nye protsessy v Iakutii: Sovremennyĭ rakurs i perspektivy razvitiia* (pp. 228-47). Yakutsk: IRHISN SB RAS. <https://doi.org/10.25693/monogr/ethnosociology/2020>
- Kozlov, A. I., Vershubsky, G., & Maria Kozlova, M. (2003). Stress under modernization in indigenous populations of Siberia. *International Journal of Circumpolar Health*, 62(2), 158-166. <https://doi.org/10.3402/ijch.v62i2.17551>
- Language Law of the Republic of Sakha (Yakutia)*. (1992) [Zakon Respubliki Sakha (Yakutiya) ot 16 oktiabria 1992 goda N 1170-XII. O yazykakh v Respublike Sakha (Yakutiya). <http://docs.cntd.ru/document/804911252>; accessed 07 September 2018.
- Larsen, J. N., Schweitzer, P., & Petrov, A. (Eds.). 2014. *Arctic Social Indicators. (ASI II: Implementation.)* Copenhagen: Nordic Council of Ministers. <https://www.norden.org/en/publication/arctic-social-indicators>
- Larsen, J. N., P. Schweitzer & G. Fondahl, G. (Eds.). 2010. *Arctic Social Indicators (ASI I)*. Copenhagen: Nordic Council of Ministers.
- Liarskaya, E. (2013). Boarding school on Yamal: History of development and current situation. In E. Kasten & T. de Graff (Eds.). *Sustaining indigenous knowledge: Learning tools and community initiatives for preserving endangered languages and local cultural heritage* (pp.159–180). Fürstenberg/Havel: Kulturstiftung Sibirien.
- Mathiesen, S., Bongo, M., Burgess, P., Corell, R., Degteva, A., Eira, I., Hanssen-Bauer, I., Ivanoff, A., Magga, O., Maynard, N., Oskal, A., Pogodaev, M., Sara, M., Turi, E. & Vikhamar-Schuler, D. (2018). Indigenous reindeer herding and adaptation to new hazards in the Arctic. In D. Nakashima, I. Krupnik, & J. Rubis (Eds.). *Indigenous knowledge for climate change assessment and adaptation* (pp. 198-213). Cambridge: Cambridge University Press. <https://doi.org/10.1017/9781316481066.015>
- Ozolins, U. (2003). The impact of European accession upon language policy in the Baltic States. *Language Policy* 2(3), 217–238. <https://doi.org/10.1023/A:1027320716791>

- Pavlenko, A. (2008). Multilingualism in Post-Soviet countries: Language revival, language removal, and sociolinguistic theory. In A. Pavlenko (Ed.). *Multilingualism in post-Soviet countries* (pp. 1–40). Bristol: Multilingual Matters.
- Perley, B. (2020). Indigenous translocality: Emergent cosmogonies in the new world order. *Theory & Event* 23(4)
- Pohl, B.D., McCarty, J.L., & Fain, J.J. (2020). Burning the High Arctic: 2020 spring and summer fire season in Sakha Republic. A precursor of fire seasons to come? *Iceblog. International Cryosphere Climate Initiative*. <http://iccinet.org/burning-the-high-arctic-2020-spring-and-summer-fire-season-in-sakha-republic-a-precursor-of-fire-seasons-to-come/>
- Robbek, V. (2005). *Fol'klor évenov Berezovki*. Yakutsk: Institut gumanitarnykh issledovaniĭ i problem malochislennykh narodov Severa Sibirskogo otdeleniia RAN.
- Turaev, V. A. (2015). Velikaia Otechestvennaia voĭna i narody Dal'nego Vostoka: demograficheskie i étnokul'turnye posledstviia. *Rossia i ATR*, 2(88), 25-39. <https://cyberleninka.ru/article/n/velikaya-otechestvennaya-voyna-i-narody-dalnego-vostoka-demograficheskie-i-etnokulturnye-posledstviya/viewer>
- Wurm, S. (1996). Indigenous lingue franche and bilingualism in Siberia (beginning of the 20th century). In S. Wurm, P. Mühlhäusler & D. Tryon (Eds.). *Atlas of languages of intercultural communication in the Pacific, Asia, and the Americas* (pp. 975-978). Berlin, New York: De Gruyter Mouton. <https://doi.org/10.1515/9783110819724.3.975>
- Zenker, O. (2018). Language and identity. In H. Callan & S. Coleman (Eds.). *The international encyclopedia of anthropology*. John Wiley & Sons. <https://doi.org/10.1002/9781118924396.wbiea2271>